US006517443B1

(12) **United States Patent**
Villella

(10) **Patent No.: US 6,517,443 B1**
(45) **Date of Patent: Feb. 11, 2003**

(54) **WHEELCHAIR ACCESSIBLE AMUSEMENT RIDE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/883,597**

(22) Filed: **Jun. 18, 2001**

(51) **Int. Cl.**[7] **A63G 13/06**

(52) **U.S. Cl.** **472/95**; 472/100; 472/96; 414/921

(58) **Field of Search** 472/95, 96, 100, 472/101, 43; 414/921; 296/65.01, 68, 65.03, 65.04; 104/53

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(57) **ABSTRACT**

A wheelchair accessible amusement ride having a solid non-moving base to which a body that rocks back and forth on the base is mounted. The interior of the body is supplied with a seat that may move between a first position for use with able bodied children who may sit in the seat and operate the controls of the ride and a second forward stowed position allowing the interior compartment to give access to a wheelchair and wheelchair bound individual. The seat is mounted to a series of rails allowing the seat to easily be moved and locked between the two positions. The device is further equipped with a rear gate that may be dropped and used as a ramp to load a wheelchair and wheelchair bound individual into the device prior to closing the gate and containing the wheelchair and handicapped individual for the ride, thus allowing wheelchair bound children the same chance to have experience with these rides as able bodies children and adults.

19 Claims, 9 Drawing Sheets

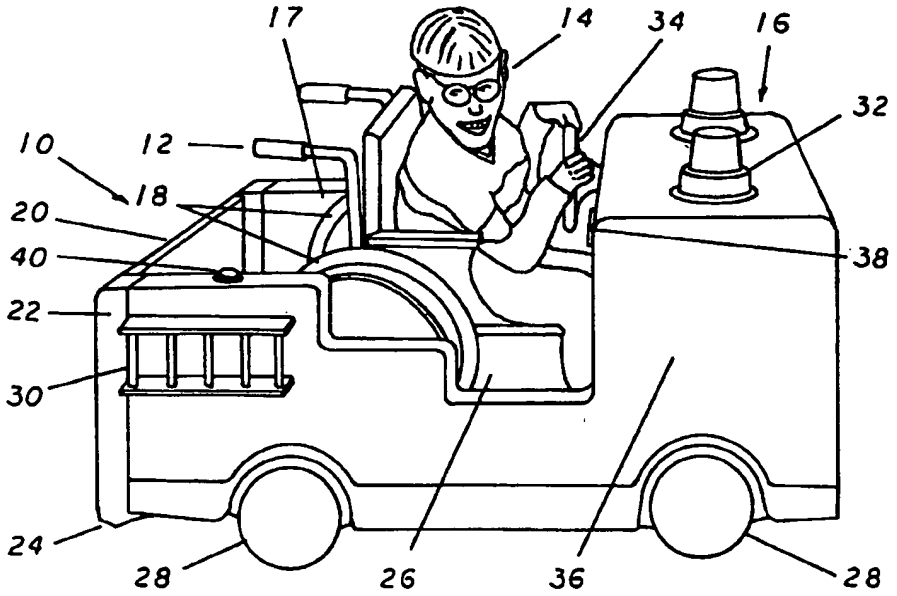
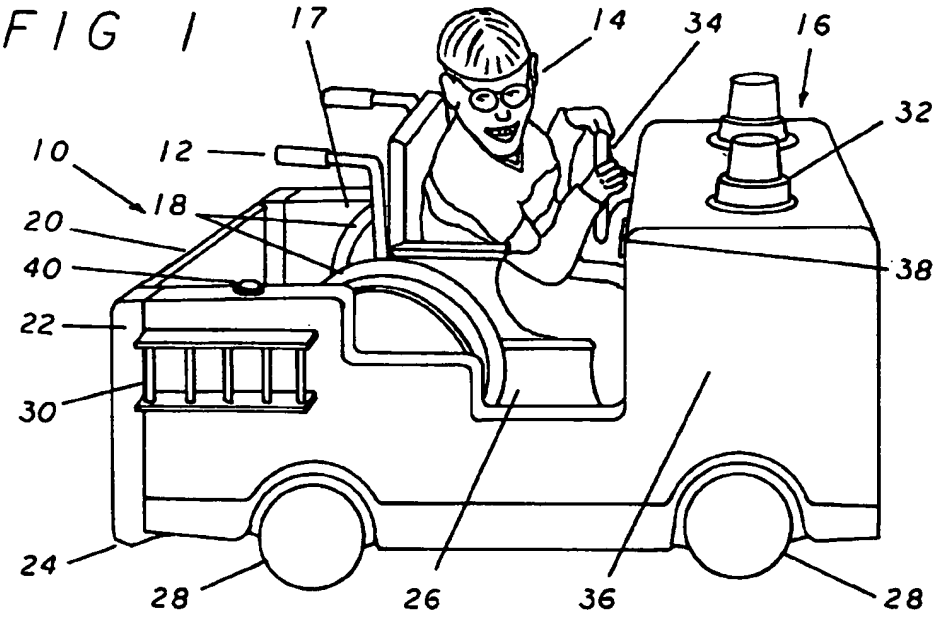


FIG 1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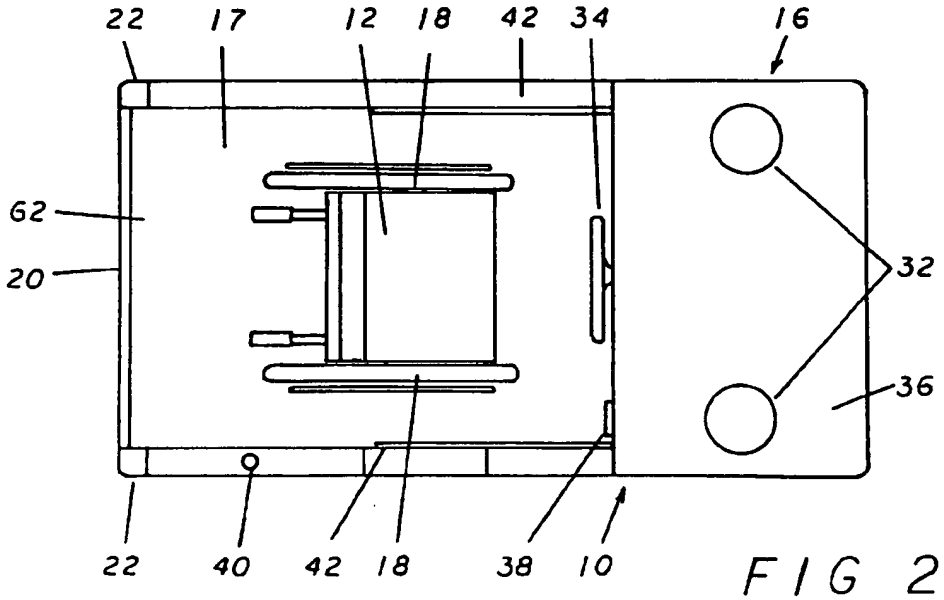
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FIG 2

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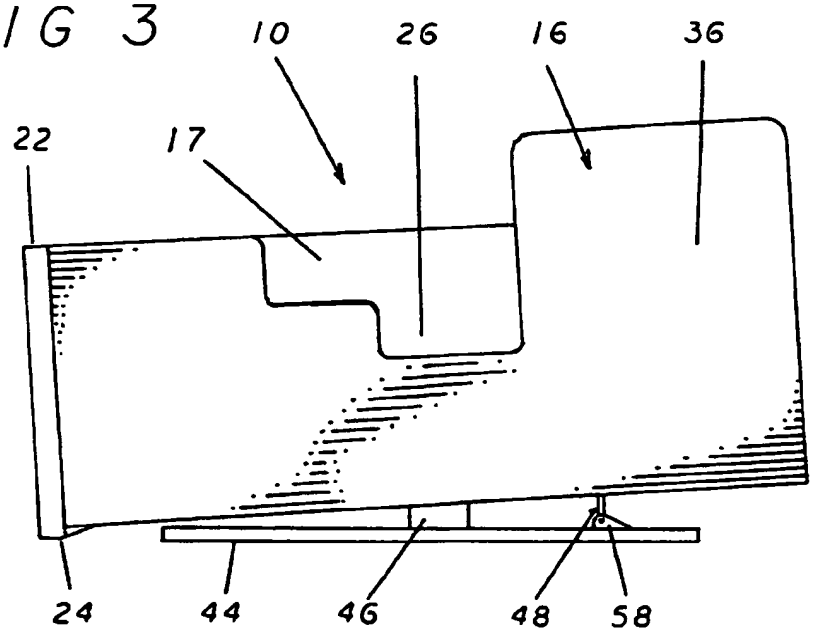

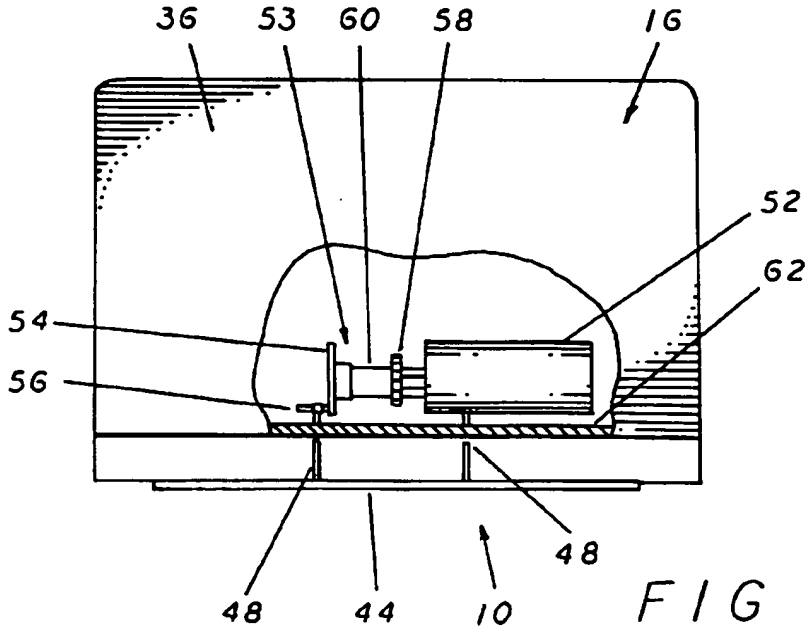

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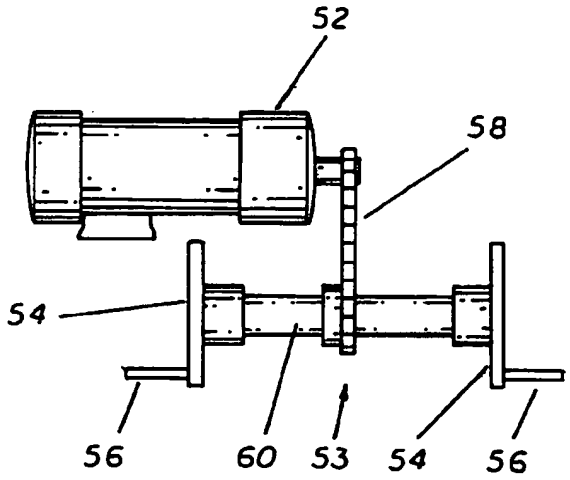

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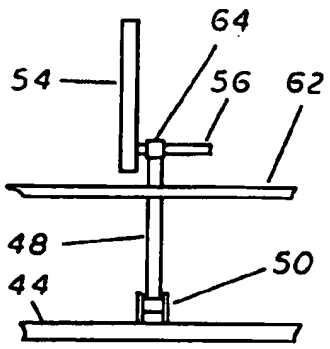

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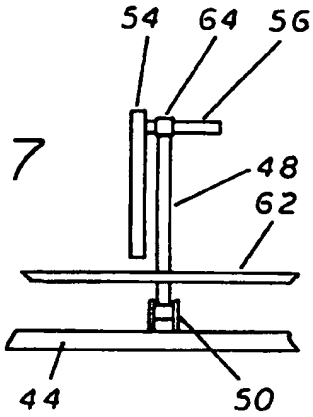

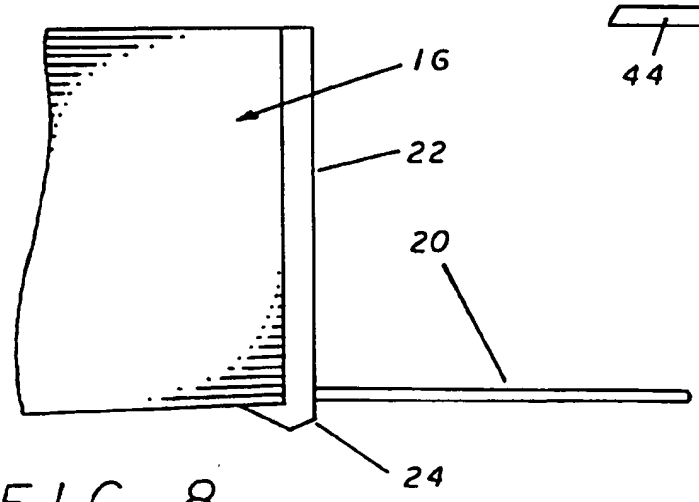

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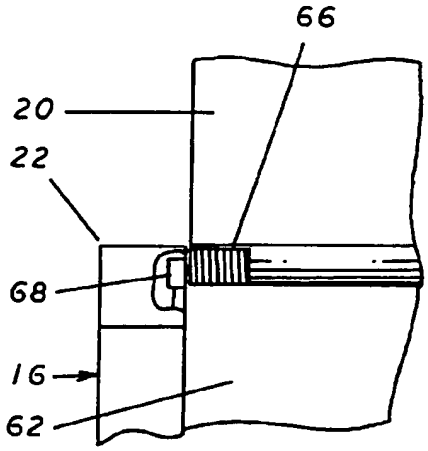

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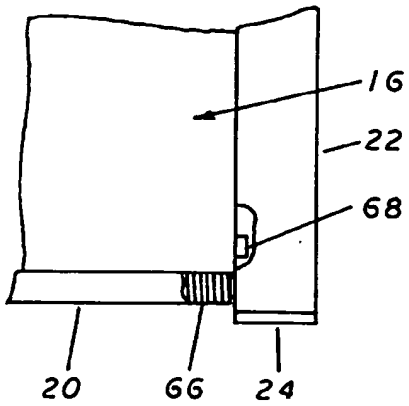

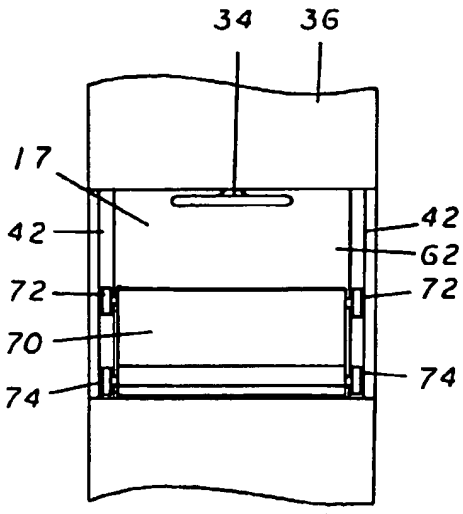

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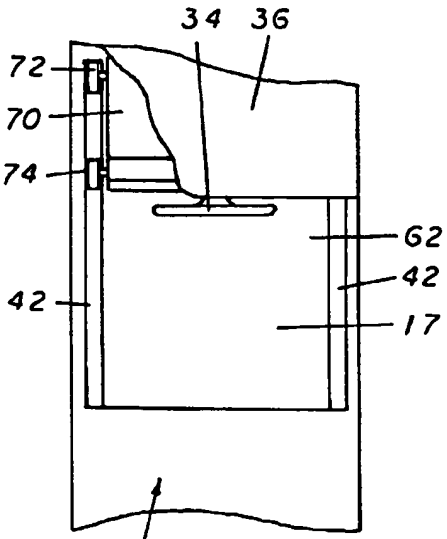

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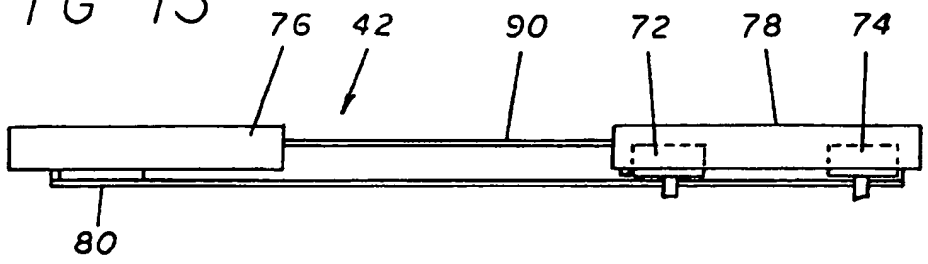

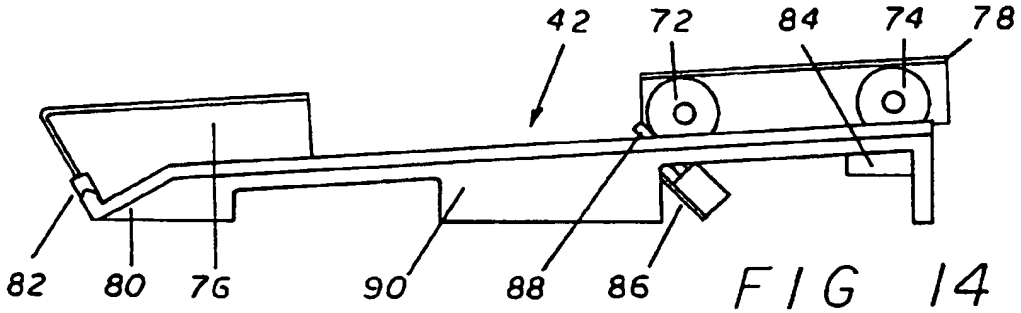

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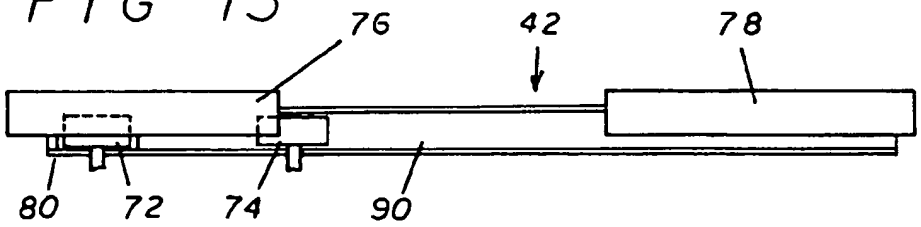

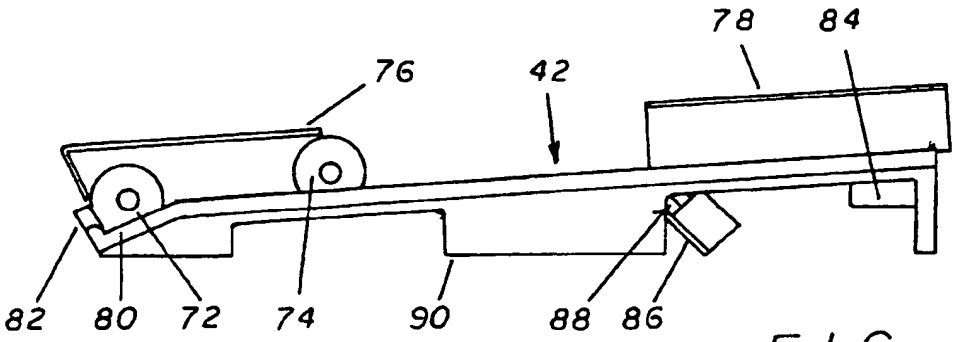

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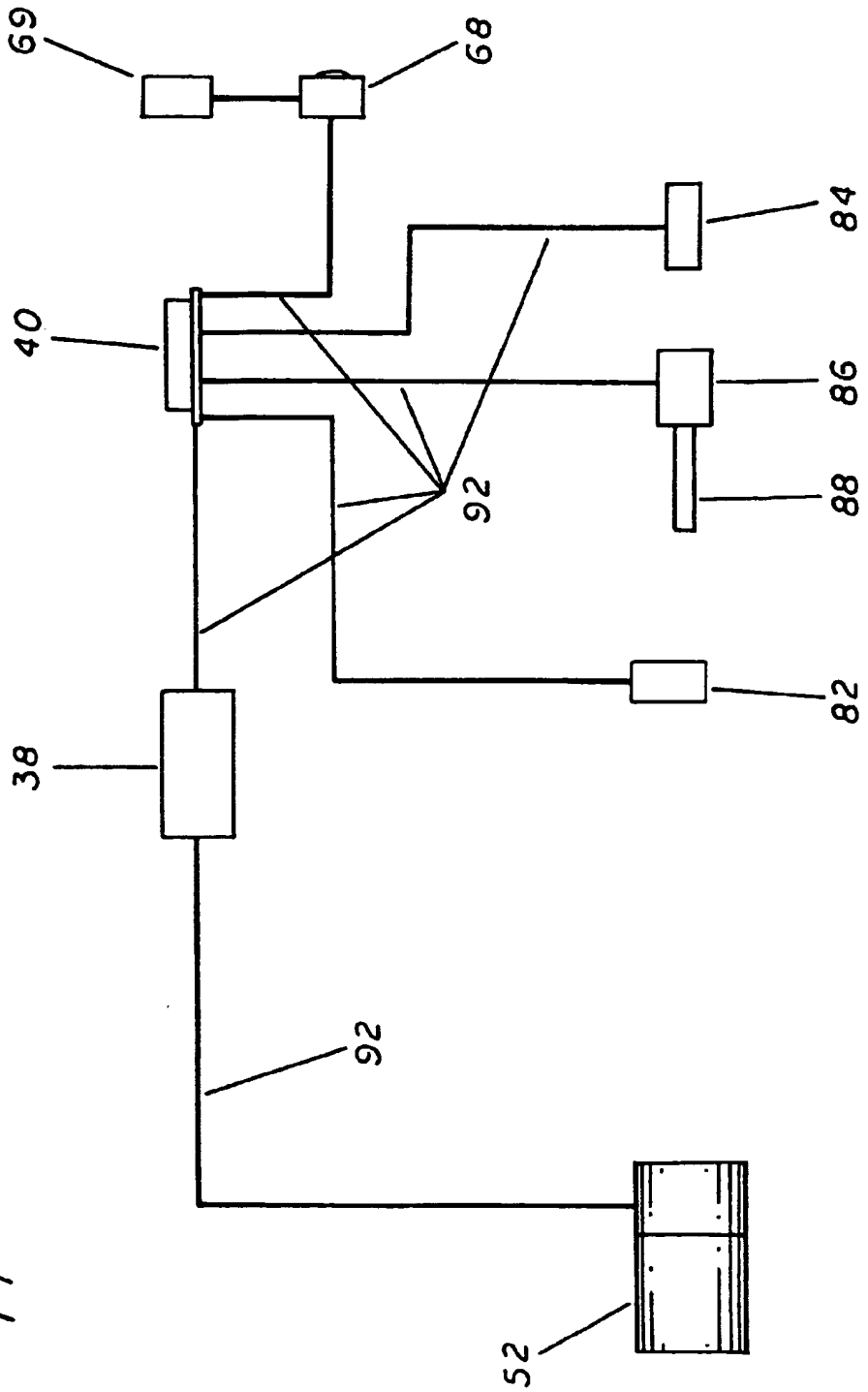

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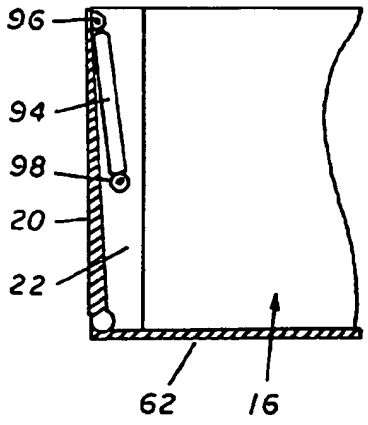

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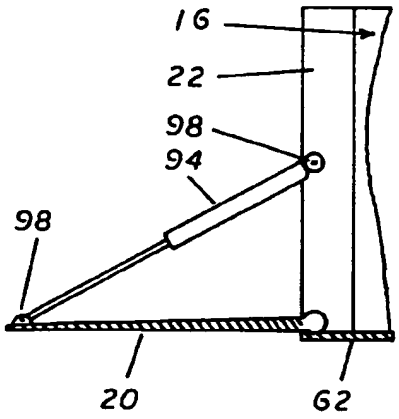

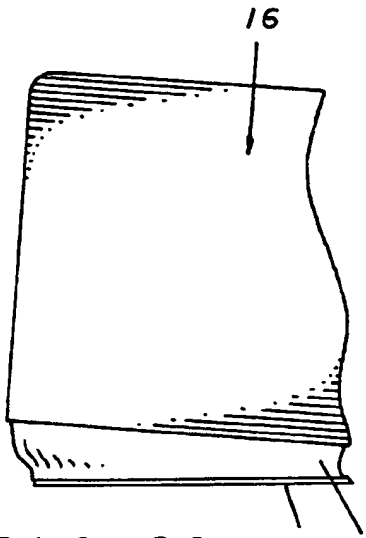

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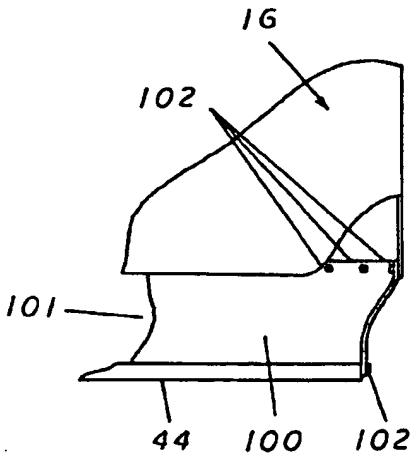

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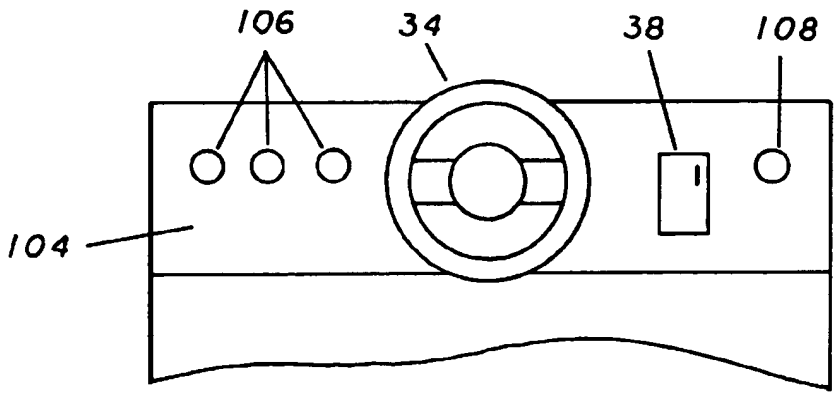

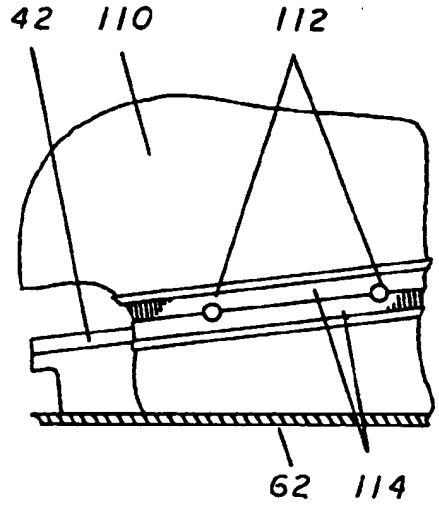

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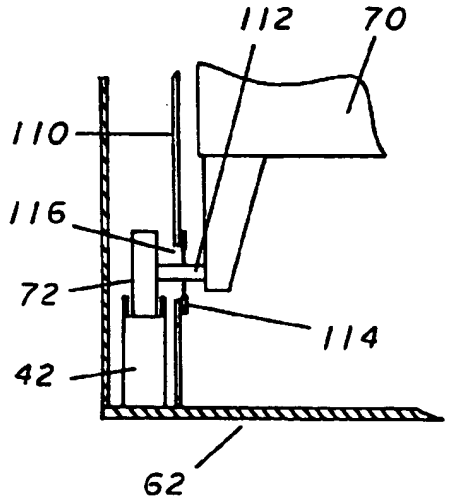

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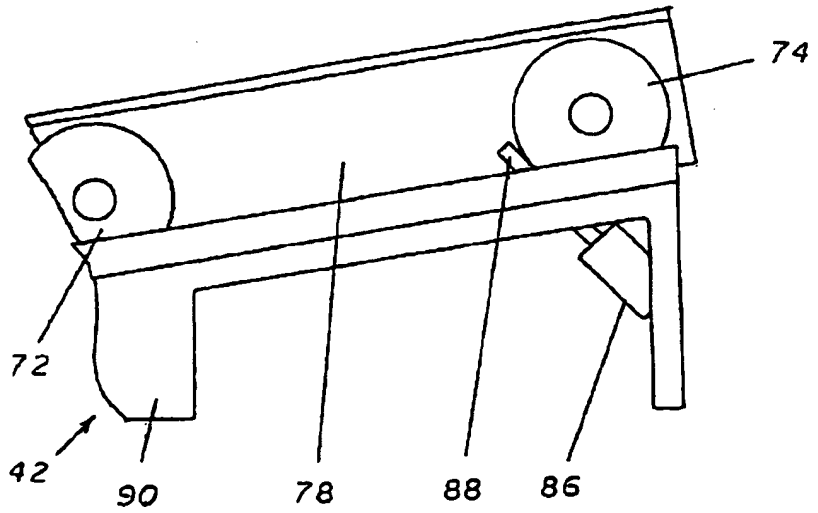

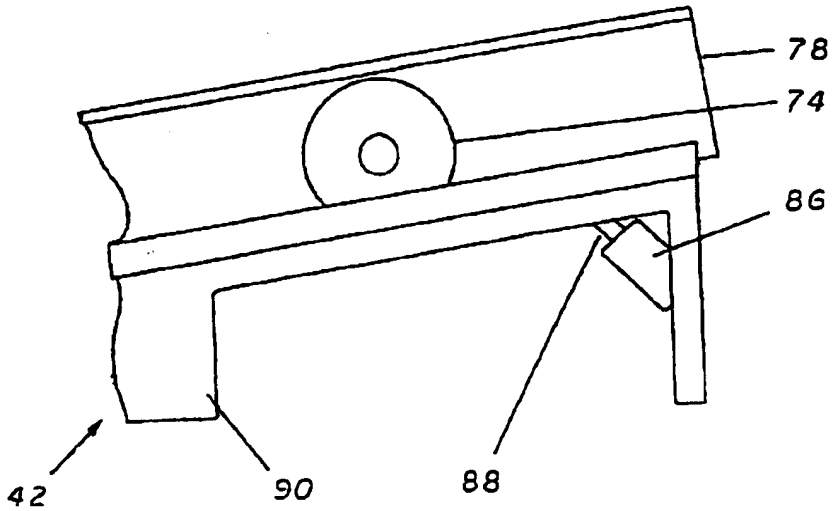

FIG 26

WHEELCHAIR ACCESSIBLE AMUSEMENT RIDE

BACKGROUND OF THE INVENTION

The field of this invention in general is powered amusement rides for children and, more specifically, an amusement ride which may easily be configured to give access to wheelchairs so that physically handicapped people may enjoy the ride while also allowing for able bodied individuals to similarly enjoy the ride.

Amusement or kiddie rides have become increasingly popular and are commonly used outside of grocery stores, department stores, amusement parks and restaurants for the enjoyment of small children and parents watching and assisting their children in using the rides. Typical kiddie rides consist of a horse, a rocket, a car or other similar device mounted to a solid non-moving base. The user inserts a coin to allow the ride to move generally in a back and forth or rocking type motion for a given amount of time. These rides have long been known and used by small children over the years. However, most of these rides, as they are sit on such as horses, rockets or small climb-in type of rides such as cars, are not accessible to handicapped children and especially handicapped children bound to wheelchairs.

Recently it has been known to modify large moving amusement park rides to allow for wheelchair access. One type of ride is shown by the Volz et al. U.S. Pat. No. 6,149,528 patent assigned to Universal City Studio, Inc. This patent generally discloses a ride where the seats for able bodied users fold out of the way through a complex mechanism allowing a wheelchair to be wheeled into place and locked down to the ride. However, this does not solve the problem of making small generally base mounted kiddie rides such as those used at department stores and grocery stores accessible to individuals in wheelchairs.

From this discussion, it can be seen that it would be desirable to make a small base mounted type ride as are commonly used outside of grocery stores and department stores accessible to wheelchair bound individuals while also allowing the ride to be used by able bodied individuals, thus increasing the number of people that may use the ride while allowing wheelchair bound children access to rides and experiences previously limited to able bodies children.

SUMMARY OF THE INVENTION:

It is the primary objective of the present invention to provide a means by which handicapped individuals who are bound to wheelchairs, especially children, can gain access to the rocker type amusement rides that are commonly found in amusement parks and around the entrances of department stores and other high traffic public areas.

It is an additional objective of the present invention to provide such a means of allowing access to such amusement rides that will not requirewheelchair bound individuals to leave their wheelchair in order to enjoy the entertainment provided by such amusement rides.

It is a further objective of the present invention to provide such a means of allowing access to such amusement rides to handicapped individuals that will enable them to position their wheelchair within the interior of the ride without the aid of others.

It is a still further objective of the present invention to provide such a means of allowing access to these amusement rides to wheelchair bound individuals in a manner that will also enable non-handicapped individuals to enjoy the ride when it is not otherwise engaged.

These objectives are accomplished by the use of a rocker type amusement ride that is built in such a manner as to allow for the placement of a wheelchair within its body. With this in mind, the present invention is generally fashioned in the shape of a fire truck, or other relatively large bodied vehicle such as automobiles, stage coaches, boats, or trucks, and which contains a centrally located cavity large enough to accept a wheelchair and its occupant. This configuration allows a person that is confined to a wheelchair that can normally not enjoy the entertainment offered by these types of amusement rides to easily enter the present invention and operate the device from the confines of their wheelchair.

The entrance to the invention by the wheelchair occupant is accomplished through a drop gate located at the rear of the body of the invention. The drop gate is pivotally attached to the body of the invention on either side of its lower surface which allows it to be swung in a downward manner when the upper latch is released. In this downward position, the drop gate effectively forms an access ramp which allows for wheelchair access into the interior of the present invention. Additionally, the drop gate is also equipped with a plurality of. shock absorbers which limit the speed at which the end gate will open eliminating the danger that may be associated with the gate striking a person in the opening process.

Additionally, the interior of the invention is equipped with a moveable seat which in its rearward position provides a seat for able-bodied users that positions them in front of the mock steering wheel or console. For use by disabled patrons, the moveable seat can be slid forward on a system of wheels and rails into the forward cavity of the invention's body where it is out of the way and allows a wheelchair occupant access to the forward portion of the body cavity where they can manipulate the steering wheel and obtain the full entertainment value of the operation of the present invention. The rails and moveable seat wheels in this configuration are also positioned behind inner side panels which ensure that an individual using the invention is not exposed to the moving parts contained in these areas and is therefore, isolated from the potential risk of injury that normally accompanies similar moving components.

The general operations of the present invention are controlled through the power supply positioned in the interior of the body and which can be activated and controlled through a coin operated or keyed mechanism and which controls two interconnected electrical circuits. The first of these operates the electric motor and rocking system which is located in the forward cavity of the body of the invention. The activation of this circuit starts the electric motor turning which rotates a pair of cams. These cams are connected to rods which are in turn connected to the base of the invention. The rotation of the cams causes the forward portion of the invention to raise and lower in relation to the base which, due to the pivotal nature of the body's attachment to the base, causes the entire body to rock in an gentle up and down manner.

The second circuit controlled by the power supply is a series of positional switches and solenoids which are in turn connected to the solenoid control switch. This system both monitors the position of the moveable seat and end gate and controls the position of the moveable seat through the wheel solenoid. The monitoring function works to ensure that both the end gate and moveable seat are in the proper position before the electric motor can be engaged. That is to say, if the end gate is not in the upright and locked position, the

electric motor is prevented from operation by the power supply. Similarly, if the moveable seat is not either fully forward for use with wheelchair bound individuals or fully rearward for use with able-bodied individuals, the electric motor is also prevented from operating by this circuit.

The positional function of this circuit is operated through the wheel solenoid which operates in normal circumstances to lock the moveable seat into the full rearward position. This function is performed by the solenoid's protrusion into the track area just in front of the front wheel of the moveable seat. Due to the fact that the rail is slanted from a high point at its rear a low point at its front, this positioning of the solenoid holds the moveable seat in a rearward position when it is fully extended. Conversely, when the solenoid is retracted, the moveable seat is allowed to roll forward to its stored position in the forward cavity of the invention's body, allowing a wheelchair bound individual access to the ride.

An additional embodiment of the moveable seat wheel track is also provided which positions the solenoid in front of the rear seat wheel instead of in front of the front wheel. This positioning of the solenoid simplifies the operations and manufacture of the invention which will be more fully explained below. In terms of the operation of the moveable seat, the change of location of the solenoid does not alter the manner in which the seat is moved from its rearward to its forward positions or from its forward to its rearward positions.

Therefore, when a wheelchair bound individual approaches the invention the moveable seat is held in its rearward position and the end gate is up and closed. In this position, the invention is capable of operation by an able-bodied individual as the rearward wheel switch is properly activated by the position of the moveable seat and the gate switch is properly activated by the position of the end gate. The wheelchair bound individual converts the invention to wheelchair accessible by first opening the rear gate and then depressing the solenoid control switch which retracts the solenoid plunger and releases the moveable seat which then rolls forward into the forward cavity of the invention's body. In this position, the forward wheel of the moveable seat activates the forward wheel switch and the wheelchair bound individual can then position the wheelchair within the body cavity. The end gate is then closed which activates the gate switch and allows for the activation of the electric motor and provides the rocking motion desired by the wheelchair bound individual.

Additionally, the end gate assembly also contains a warning beeper that is connected through the end gate position sensor and which is activated at all times when the end gate is in the open position. This safety feature functions much like the backup warning bells connected to most large trucks which are engaged when the vehicle is in reverse and warn people in the vicinity of the rearward motion of the truck. In the case of the present invention, the warning buzzer alerts nearby people of an open gate limiting the chances that they may trip over it and injure themselves.

Finally, the present invention is also equipped with a safety feature which ensures no one can be injured by having a body part pinched between the invention's body and its base during the rocking process. This component consists of a flexible skirt which spans the gap between the lowest most edge of the body and the base around the entirety of the invention. The use of the skirt ensures that nothing can be placed between the body and the base which ensures that no human appendages can be injured during the invention's operation.

For a better understanding of the present invention reference should be made to the drawings and the description in which there are illustrated and described preferred embodiments of the present invention.

DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of the present invention which illustrates the manner in which a wheelchair bound individual can be positioned within the body of the present invention thereby allowing them to enjoy the entertainment provided by such amusement rides to which they are normally incapable of gaining access.

FIG. **2** is a top elevation view of the present invention illustrating the relative position of a wheelchair within the body cavity of the invention in relation to the other major components.

FIG. **3** is a side elevation view of the present invention illustrating the position and configuration of the rocking base in relation to the body and the pivotal nature of the attachment of the two which allows the body to produce the rocking motion that is central to the operation of the ride.

FIG. **4** is a front elevation cut-away view of the present invention illustrating the position of the electric motor and rocker assembly within the forward cavity of the body of the invention and further detailing the configuration of the rocker base.

FIG. **5** is a top elevation view of the electric motor and rocker assembly detailing their general configuration and the positions of the rotation cams and the cam drive chain in relation to the drive motor.

FIG. **6** is a front elevation view of the rotation cam and cam rod components of the present invention detailing their position and the positions of the body floor and base when the cam has been fully rotated into the down position which widens the gap between the body floor and base and initiates the rocking motion of the amusement ride.

FIG. **7** is a front elevation view of the rotation cam and cam rod components of the present invention detailing their position and the positions of the body floor and base when the cam has been fully rotated into the up position which closes the gap between the body floor and base and completes the rocking motion of the amusement ride.

FIG. **8** is side elevation view of a the rear portion of the body of the invention detailing the position of the end gate when it is in the lowered position and the manner in which it forms a ramp that provides access to the interior of the invention to a wheelchair bound individual.

FIG. **9** is a top elevation cut-away view of the end gate component of the present invention detailing the position of the gate spring and the gate switch when the end gate is in the down position.

FIG. **10** is a rear elevation cut-away view of the end gate component of the present invention detailing the position of the gate spring and the gate switch when the end gate is in the down position.

FIG. **11** is a top elevation view of the body cavity portion of the present invention illustrating the position of the moveable seat and seat rails when the seat is in the rearward position for use with able-bodied individuals.

FIG. **12** is a top elevation cut-away view of the body cavity portion of the present invention illustrating the position of the moveable seat when it is in the forward position for use with a wheelchair bound individual.

FIG. **13** is a top elevation view of the seat guide rail components of the present invention detailing their manner

of construction and the position of the seat wheels when the moveable seat is in the rearward position.

FIG. **14** is a side elevation view of the seat guide rail components of the present invention detailing the positions of the forward wheel switch, rearward wheel switch, and the wheel solenoid and associated solenoid plunger when the moveable seat is in the rearward position.

FIG. **15** is a top elevation view of the seat guide rail components of the present invention detailing their manner of construction and the position of the seat wheels when the moveable seat is in the forward position.

FIG. **16** is a side elevation view of the seat guide rail components of the present invention detailing the positions of the forward wheel switch, rearward wheel switch, and the wheel solenoid and associated solenoid plunger when the moveable seat is in the forward position.

FIG. **17** is a flow chart representation of the electrical systems of the present invention illustrating the manner in which the circuits and their related components are interconnected through the power supply.

FIG. **18** is a side elevation cross-sectional view of the end gate component of the present invention illustrating the manner in which the shock assembly is attached to the invention between the end gate and the gate frame located at the most rearward end of the ride body.

FIG. **19** is a side elevation cross-sectional view of the end gate component of the present invention illustrating the manner in which the shock assembly spans the opening gap between the end gate and the gate frame as the end gate is lowered into its open ramp position.

FIG. **20** is a side elevation view of the present invention illustrating the use of its body skirt component which is a safety feature of the invention which ensures that body parts or other obstacles can become pinched between the body and the base during the rocking action of normal operation.

FIG. **21** is a side elevation cut-away view of the body skirt component of the present invention detailing the general configuration of the skirt and the manner employed to attach it to the correct portion of the invention.

FIG. **22** is a front elevation view of the dashboard component of the present invention illustrating the position of the start switch and accessory switches in relation to the steering wheel and power supply.

FIG. **23** is a side elevation cut-away view of the inner side panel components of the present invention illustrating the manner in which the moving parts of the moveable seat are isolated from the invention's user.

FIG. **24** is a front elevation cut-away view of the inner side panel component of the present invention detailing the method used to seal the wheel axles as they pass through the inner panel walls.

FIG. **25** is a side elevation view of an alternative embodiment of the seat guide rail component of the present invention which positions the wheel solenoid in front of the rear seat wheel instead of in front of the front seat wheel to hold the seat in the rearward position used by able bodied individuals.

FIG. **26** is a side elevation view of an alternative embodiment of the seat guide rail component of the present invention illustrating the manner in which the rear wheel of the moveable seat moves forward along the seat guide rail when the plunger of the wheel solenoid is retracted to allow the moveable seat to move forward into the position which allows wheel chair bound individual access to the body cavity of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, and more specifically to FIGS. **1** and **2**, the wheelchair accessible amusement ride **10** is an adaptation of the rocking type amusement rides that are commonly found in public areas. The present invention is made up of a ride body **16** that is typically a formed fiberglass shell containing a centrally located body cavity **17** and a large flat and stable body floor **62** and which is generally shaped to resemble a fire engine or other similar larger vehicle or child friendly shape. The ride body **16** is designed with the large and accessible body cavity **17** and the body floor **62** to enable it to house a wheelchair **12** and the wheel chair occupant **14** during the operation of a rocking type amusement ride.

As previously stated, the ride body **16** of the present invention is formed in a manner so that it readily resembles a child friendly shape such as a fire truck (as illustrated in FIGS. **1** and **2**) which is accomplished by the general shape and color of the ride body **16** accompanied by aesthetic additions such as body wheels **28**, fire ladders **30**, steering wheels **34**, and rotating emergency lights **32**. The use of these details adds to the overall enjoyment of the present invention as the most common users of such devices are children who view these additions as essential to the creation of a sense of realism to the amusement ride experience. Similar details may be added to other shapes as necessary.

Access for the wheelchair **12** and wheelchair occupant **14** to the body cavity **17** is gained through the end gate/ramp **20** located on the most rearward end of the ride body **16**. The end gate/ramp **20** is pivotally attached to the ride body **16** at the inner and lower surfaces of the two gate frames **22** which are essentially metallic end caps that provide for the pivotal mounting of the end gate/ramp **20**. Without the use of the metallic gate frames **22** the pivotal attachment of the end gate/ramp **20** would place too much stress on a mounting to bare fiberglass to be practically operational.

Additionally, the lower ends of the gate frames **22** also have an angled foot **24** which serve to provide a stable contact point with the surface upon which the invention is placed when the end gate/ramp **20** is open and swung down (as detailed in FIG. **8**) to form a ramp over which the wheelchair occupant **14** can maneuver his wheelchair wheels **18** to gain access to the body cavity **17** of the present invention. Once access to the body cavity **17** has been gained and the wheelchair **12** has been properly positioned, the end gate/ramp **20** is closed and securely latched to ensure that the wheelchair occupant **14** is provided the greatest degree of safety as possible.

The ride body **16** also provides the mounting point for the power supply **38** and the solenoid control switch **40**. The power supply **38** is the component of the present invention which is used to control the actual mechanical and electrical functions associated with the operation of the these types of amusement rides and is generally positioned in an accessible position of the ride body **16** on the outer surface of the forward body cavity **36**. The operation of the power supply **38** is typically controlled by the use of a common coin activated device which allows a user to operate the present invention by inserting an appropriate number and denomination of legal tender coins into a slot on the front of the power supply **38**. However, this coin activated mechanism is not the only manner in which the operation of the invention can be controlled as other methods of operational control consisting of key and other similarly activated devices can easily be incorporated in the design of the operating systems of the present invention.

The mechanism that is employed to provide the rocking motion to the present invention further illustrated in FIGS. **3** and **4**. The present invention is equipped with body base **44** which is pivotally attached by the use of the pivoting base connection **46** to the center of the lower surface of the ride body **16**. The rocking motion is imparted to the present invention by the use of the two rocking rods **48** that are pivotally attached to the forward portion of the body base **44** by the use of the rod brackets **50**. From this point of pivotal attachment, the rocking rods **48** extend upwards through the body floor and into the interior of the forward body cavity **36** where they are attached to the rocker assembly **53** just forward of the point of attachment for the drive motor **52**.

The rocking motion of the ride body **16** is illustrated in these FIGS. by the forward end of the ride body **16** being lifted up and separated from the body base **44** resulting in the ride body **16** being oriented at a downward angle in relation to its most forward end relative to its most rearward. This position places the foot **24** located on the lower end of each of the gate frames **22** solidly on the floor upon which the invention is placed. From this rearwardly tilted position, the ride body **16** is pivoted until its forward end obtains a similar position to that of the previously described rearward end. This up and down motion of the ride body **16** is then repeated for a predetermined time period which provides the rocking motion that is pivotal to the operation of such amusement rides.

The method of construction and specific manner of operation of the electric drive motor **52** and rocker assembly **53** are further detailed in FIGS. **5**, **6**, and **7**. The rocker assembly **53** is the component of the present invention which transfers the rotational force supplied by the drive motor **52** to the vertical displacement motion required to provide the rocking motion necessary for the operation of the invention. This transfer of power is began by the drive chain which transfers the rotational power from the drive motor **52** to the drive shaft **60**. The drive shaft **60** is the central component of the rocker assembly **53** and has fixedly attached on either end a pair of rod cams **54** which are generally circular discs fixedly attached to either end of the drive shaft **60** at their center and having an outwardly and perpendicularly extending cam pins **56** fixedly attached to the outer edge of the rod cams **54** in relation to their rotational center and to the outside surface of the rod cams in relation to the body of the drive shaft **60** of the rocker assembly **53**. This manner of construction means that the rotational force transferred to the drive shaft **60** from the drive motor **52** forces the cam pins **56** to travel in a circular path around the outside of the rod cams **54** which results in a vertical displacement of the cam pins **56** described by the outside diameter of the rod cams **54**.

The cam pins **56** provide the point of rotational attachment at the cam attachments **64** for the upper ends of the rocking rods **48** which are in turn pivotally attached to the body base **44** after passing through body floor **62** by the use of the rod brackets **50**. The illustrations of FIGS. **6** and **7** detail the operations of the drive motor **52** and rocker assembly **53**. Specifically, these FIGS. detail the manner in which the rotation of the rod cams **54** and the relative positioning of the cam pins **56** due to this rotation operate to continually change the spacial relationship between the ride body **16** and the body base **44**. This change is due to the fact that the cam pins **56** are connected to the body base **44** by the rocking rods **48**. Therefore, as the rod cams **54** rotate the cam pins **56** to their lowest position relative to the body floor **62**, the gap between the body floor **62** and the body base **44** widens causing the forward end of the present invention to rock upward. Conversely, when the rotation of the rod cam **54** move the cam pins **56** to their highest position relative to the body floor **62**, the gap between the body floor **62** and body base **44** closes which causes the forward end of the invention to rock downward. Thus, the circular force provided by the drive motor **52** is converted to the vertical motion necessary to operate this type of rocking amusement ride by the use of the rocker assembly **53** and the cam pins **56**.

The operation of the end gate/ramp **20** and its use of the gate spring **66** and gate switch **68** is further detailed in FIGS. **9** and **10** which illustrate the end gate/ramp **20** in its lowered position for use as an access ramp. The gate spring **66** is an apparatus that is used by the present invention to lessen the force necessary to raise the end gate/ramp from the lowered position to the upright and locked position. This feature is important to the operation of the present invention as it allows individuals with limited physical strength to operate it. Thus, the use of the gate spring **66** provides access to the use of the invention to a group of people who otherwise would be incapable of operating it, thereby furthering the spirit and scope of the invention as a whole.

The position of the end gate/ramp **20** is monitored by the gate switch **68** which is located within the base of one of the gate frames **22** in a manner which enables it to determine whether the end gate/ramp **20** is in the open or closed position. This is very important to the operation of the present invention as, for safety purposes, the rocking motion provided by the drive motor **52** cannot be activated if the end gate/ramp **20** is left in the open position. This ensures that an individual who is using the invention and who is bound to a wheelchair **12** cannot accidentally exit the rear of the ride, an occurrence that could easily result in an injury.

The body cavity **17** of the present invention can be configured in one of two different manners depending upon the physical characteristics of the intended user. For use with able-bodied individuals, the invention's moveable seat **70** is positioned in a rearward manner within the body cavity **17** with the front and rear seat wheels, **72** and **74**, rolled back to the most rearward sections of the seat guide rails **42**. This provides sufficient room between the front edge of the moveable seat **70** and the steering wheel **34** which allows able-bodied people to enter the body cavity **17** through the body access door **26** on the center side of the ride body **16**.

For the wheelchair **12** bound individuals, the moveable seat **70** is capable of being moved forward into the forward body cavity **36** located just beneath and behind the steering wheel **34**. The forward movement of the moveable seat **70** provides sufficient room within the body cavity **17** to allow for the positioning of a wheelchair **12** in front of the steering wheel **34**, thereby, allowing a wheelchair **12** bound individual to derive enjoyment the from such rocking amusement rides that was previously limited to able-bodied people.

The manner in which the seat guide **42** rails are constructed and their method of operation are further detailed in FIGS. **13**, **14**, **15**, and **16**. The seat guide rails **42** are primarily made up of a rail body **90** which is an open top U-shaped channel that extends diagonally upward from its forward most point to its rearward most and which provides the track over which the front and rear seat wheels, **72** and **74**, roll to properly position the moveable seat **70**. Additionally, the front and rear sections of the rail body **90** are also fixed with the forward containment rail **76** and the rearward containment rail **78** which are both essentially caps that overhang the rail body **90**. This configuration ensures that the front and rear seat wheels, **72** and **74**, cannot leave

the rail body **90** under any circumstances (whether the moveable seat **70** is in the rearward or forward position), providing an additional measure of safety to the maintenance and operation of the present invention.

The seat guide rails **42** also provide the point of attachment for the plurality of sensing and actuating devices that are important to the operation of the present invention. These devices include the wheel solenoid **86** which functions to hold the front seat wheels **72**, and therefore the moveable seat **70**, in an upright and rearward position in relation to the length of the rail body **90**. This positioning is accomplished through the use solenoid plunger **88** which is a moveable extension of the wheel solenoid **86** that can be extended into the wheel channel of the rail body in a manner that impedes the movement of the front seat wheels **72**. With this purpose in mind, the wheel solenoid **86** is positioned on the seat guide rails **42** in a manner that will allow the solenoid plunger **88** to lock the moveable seat **70** (through the blocking of the front seat wheel) in the proper position on the rail body **90** so that the present invention can be used by an able-bodied individual. An additional result of this positioning of the moveable seat is that in this rearward and locked position, the rear seat wheel **74** engages the rearward wheel switch **84** which is located at the most rearward end of the rail body **90**. The rearward wheel switch **84** functions with other components of the present invention's electrical system to control the operations of the amusement ride which will be discussed in greater detail below.

The most forward end of the rail body **90** is equipped with a rail detent area **80** which is an area of the rail body **90** which slopes shapely downward in relation to the remainder of the rail body **90**. The purpose of the rail detent area **80** is to hold the moveable seat **70** in the desired position when it is moved all the way forward within the invention for use with a wheelchair **12** bound individual. This operates by providing a depression into which the front seat wheel **72** drops when the moveable seat **70** is moved all the way forward on the rail body **90**. Thus, in order to reposition the moveable seat **70**, the front seat wheel **72** must be removed from the rail detent area **80** which requires a significant amount of force; certainly more than can be generated by the motion of the invention. Finally, the most forward end of the rail detent area **80** is also equipped with a forward wheel switch **82** which is designed to operate in conjunction with the remaining components of the present invention's electrical and operating systems.

The electrical and operating systems of the present invention are detailed in FIG. **17** which is a flow chart representing the manner in which the components of the system control the operation of the invention. The electrical system consists of two separate circuits that are operationally dependant on one another and which are both controlled through the power supply **38**. The first of these individual circuits operates the drive motor **52** used to provide the rocking motion that is central to the theme of the amusement ride. The drive motor **52** is connected directly to the power supply **38** through a feed wire **92** and the activation of the drive motor **52** is dependant on the proper configuration of the second circuit of the invention.

The second circuit consists of the three positional switches, the gate switch **68**, the forward wheel switch **82**, and the rearward wheel switch **84**, and the wheel solenoid **86** which are also connected to the power supply through a series of feed wires feeds **92** and the solenoid control switch **40**. The primary function of the solenoid control switch **40** is to release the solenoid plunger **88** of the wheel solenoid **86** which allows the moveable seat **70** to move forward and out of the way of a wheelchair **12**. The remaining components of this circuit function to monitor the position of the primary components of the invention. The important thing to note in this regard is that the interconnection of the two systems operates to ensure that the drive motor **52** cannot be engaged by the power supply **38** unless the monitoring switches confirm that their related component is in the proper position for the safe operation of the invention. That is to say, if either the forward or rearward wheel switches, **72** and **74**, do not register the presence of the moveable seat **70**, the power supply **38** will not activate the drive motor **52**. Likewise, if the gate switch **68** indicates that the end gate/ramp **20** is not properly closed, the drive motor **52** will not operate. This interconnected design enhances the overall safety of the present invention as it ensures that it cannot be operated if any of the safety features are not properly configured.

An additional safety feature of the present invention is illustrated in FIGS. **18** and **19** which detail the use of a plurality of end gate shocks **94**. The end gate shocks **94** extend from their point of pivotal attachment to the end gate/ramp **20** at the upper shock mount **96** to their pivotal point of attachment to the interior wall of the gate frames **22** at the lower shock mount **98**. The purpose of the end gate shocks **94** is to control the motion of the end gate/ramp **20** during the opening process. This is necessary because without the use of the end gate shocks **94**, the end gate/ramp **20** can drop down too quickly and the force of this opening process could injure an individual that is in the path of the opening end gate/ramp **20**. The end gate shocks **94** control this by forcing the end gate/ramp **20** to open in a slow and controlled manner which eliminates any risks involved in the opening process to both bystanders and users of the present invention.

A further safety feature of the present invention is illustrated in FIGS. **20** and **21** which detail the use of a safety skirt **100** which spans the gap **101** between the lower edge of the ride body **16** and the body base **44**. The use of this safety device is made necessary by the rocking motion of the invention as it creates an opening and closing gap **101** between the ride body **16** and the body base **44**. Consequently, if this gap were left open a user or bystander could sustain an injury by inadvertently placing a foot, hand, or other appendage into the closing gap **101** and having it pinched and compressed by the rocking motion of the present invention. The use of the safety skirt **100** eliminates this hazard as it closes off the gap **101** between the ride body **16** and the body base **44**.

The safety skirt **100** is made up of a flexible yet extremely durable fabric-like material that will allow the relationship between the ride body **16** and the body base **44** to continually change due to the rocking motion of the invention while making it impossible for anything to be placed within the gap **101**. The attachment of the safety skirt **100** to the invention is accomplished by the use of a plurality of attachment screws **102** which, on the lower end of the safety skirt **100**, attach it to the outer edge of the body base **44**, and on the upper end attach it to the inner surface of the lowest edge of the ride body **16**. Additionally, this attachment is performed around the entirety of the perimeter of the invention ensuring that there are no open areas which would allow for the passage of a foreign object into the gap **101**. Thus, the use of the safety skirt **100** in conjunction with the present invention enhances its safe operation for not only the primary user, but also for those who are close to the invention during its operation. The fact that wheelchair **12** bound individuals are normally accompanied by adults and

other similar individuals, makes the safety skirt **100** a vital component for the safe operation of the present invention.

The manner in which a start button **108** is used with the present invention is detailed in FIG. **22**. As previously stated, the primary control of the invention is a function of the power supply **38** which is located on the right side of the dashboard **104** outside of the steering wheel **34**. However, the power supply **38** only activates the invention after the user performs the necessary initiating process (inserting the proper number of coins or turning the key) and then depresses the start button **108**. This ensures that the rocking motion of the invention is not began until the user is properly positioned within the ride body **16**. Additionally, the dashboard **104** also contains a plurality of accessory buttons **106** which control the operation of the entertainment accessories such as the emergency light, siren, and bells. These features enhance the entertainment value of the invention to its potential users as they provide an additional measure of reality to the ride.

A still further safety device that is employed in the normal use of the present invention is illustrated in FIGS. **23** and **24** which detail the configuration of the inner side panels **110**. The inner side panels **110** function to isolate the moving parts of the moveable seat **70** component of the invention from the user within the interior of the invention. This isolation is accomplished by the inclusion of a axle slot **116** that is diagonally oriented in the face of the inner side panel **110** in a position that coincides with the upper surface of the seat guide rails **42**. The openings of the axle slots **116** is enclosed by the use of two oppositely oriented axle seals **114** which meet roughly along the center line of the axle slots **116**. The axle seals **114** are made of a material that is highly flexible and that will readily return to its original configuration when a distortion force has been applied and subsequently removed. This characteristic not only allows the wheel axles **112** to pass from their point of attachment at the front and rear seat wheels, **72** and **74**, through the inner side panels **110**, but also makes it possible for the moveable seat **70** to move up and down the seat guide rails **42** without losing this seal. Additionally, the seal not only isolates the user from these moving parts, but also keeps dirt and other debris from interfering with the efficient operations of the moveable seat **70** component of the invention.

Finally, an alternative embodiment of the seat guide rail **42** components of the present invention which is illustrated in FIGS. **25** and **26**. This embodiment of the invention moves the wheel solenoid **86** from its position on the rail body **90** which places the protruding solenoid plunger **88** in front of the front seat wheel **72** rearward to a point at which it protrudes in front of the rearward position of the rear seat wheel **74**. Despite this change of position, the interaction between the wheel solenoid **86** and the rear seat wheels **74** is exactly as described in the previous embodiment for the interaction between the wheel solenoid **86** and the front seat wheel **72**.

The changing of the wheel solenoid's **86** position allows the invention to operate without need for the installation of the forward and rearward wheel switches, **82** and **84**. The difference in the ride's operation is simply that the depression of the solenoid control switch **40** retracts the solenoid plunger **88** and allows the rear seat wheels **74** to move forward along the rail body **90**. However, unlike the previous embodiment, the release of the solenoid control switch **40** allows the solenoid plunger **88** to return immediately to its protruding position after the rear seat wheels **74** has passed. This allows the forward and rearward wheel switches, **82** and **84**, to be eliminated as the solenoid plunger's **88** default position is extended and the moveable seat **70** can only be either held in its rearward position by the solenoid plunger **88** or all the way forward at the bottom of the diagonally oriented rail body **90**. Thus, the functions of the forward and rearward wheel switches, **82** and **84**, of monitoring the position of the moveable seat **70** is no longer necessary as the solenoid plunger **88** is always extended unless the solenoid control switch **40** is depressed which means that the moveable seat **70** can only be in one of two possible positions during all phases of the operation of the present invention.

Although the present invention has been described in considerable detail with reference to certain preferred versions thereof, other versions are possible. Therefore, the spirit and scope of the appended claims should not be limited to the description of the preferred versions contained herein.

What is claimed is:

1. An amusement ride comprising a:

a stationary base;

a ride body defining a ride body cavity, said ride body connected to said stationary base such that said ride body is movable relative to said stationary base;

a track system mounted within said ride body; and

a seat slidably moveable on said track system between a first back position wherein the seat is back in said body cavity so as to be useable by a seated rider and a forward position wherein said seat is forward in said body cavity to provide space in said body cavity for a wheelchair.

2. An amusement ride as in claim **1** further comprising a gate pivotally mounted to said ride body, said gate being movable between a first lowered ramp position and a second upward position enclosing said body cavity.

3. An amusement ride as in claim **2** further comprising a solenoid system mounted to said track so as to control the movement of said seat.

4. An amusement ride as in claim **3** wherein said seat further comprises a plurality of wheels for moving along said track system.

5. An amusement ride as in claim **4** wherein said ride body is pivotally mounted to said stationary base such that said ride body rocks back forth relative to said stationary base.

6. An amusement ride as in claim **5** further comprising a coin operated mechanism for controlling the movement of said ride body.

7. An amusement ride as in claim **6** further comprising a series of switches for controlling the movement of said ride body and assuring said gate and said seat are properly positioned for operation.

8. An amusement ride as in claim **7** further comprising a flexible shield attached to said stationary base and said ride body.

9. An amusement ride as in claim **8** further comprising a flexible shield attached to said stationary base and said ride body.

10. An amusement ride comprising a:

a stationary base;

a ride body defining a ride body cavity, said ride body connected to said stationary base such that said ride body is movable relative to said stationary base;

a track system mounted within said ride body; and

a seat having plurality of wheels slidably moveable on said track system within said body cavity such that said seat is useable by a seated rider or moved so as to provide space in said body cavity for a wheelchair.

11. An amusement ride as in claim **10** further comprising a gate pivotally mounted to said ride body, said gate being

movable between a first lowered ramp position so to allow a wheelchair access to said body cavity and a second upward position enclosing said body cavity.

12. An amusement ride as in claim **11** further comprising a solenoid system mounted to said track so as to control the movement of said seat.

13. An amusement ride as in claim **12** wherein said ride body is pivotally mounted to said stationary base such that said ride body rocks back forth relative to said stationary base.

14. An amusement ride as in claim **13** further comprising a coin operated mechanism for controlling the movement of said ride body.

15. An amusement ride as in claim **14** further comprising a series of switches for controlling the movement of said ride body and assuring said gate and said seat are properly positioned for operation.

16. An amusement ride comprising a:

a stationary base;

a ride body defining a ride body cavity, said ride body pivotally connected to said stationary base such that said ride body is movable back and forth relative to said stationary base;

a motor and cam system connected to said stationary base and said ride body so as to move said ride body relative to said base;

a seat moveably connected to said ride body so as move within said body cavity such that said seat is useable by a seated rider or moved so as to provide space in said body cavity for a wheelchair; and

a gate pivotally mounted to said ride body said gate being movable between a first lowered ramp position so to allow a wheelchair access to said body cavity and a second upward position enclosing said body cavity.

17. An amusement ride as in claim **16** further comprising a solenoid system mounted to said track so as to control the movement of said seat.

18. An amusement ride as in claim **17** further comprising a coin operated mechanism for controlling the movement of said ride body.

19. An amusement ride as in claim **18** further comprising a series of switches for controlling the movement of said ride body and assuring said gate and said seat are properly positioned for operation.

* * * * *

United States Patent [19]

Green

[11] **3,730,524**

[45] **May 1, 1973**

[54] MULTI-GAME SYSTEM

[76] Inventor: Martin Green, 243 Franklin Turnpike, Mahwah, N.J. 07430

[22] Filed: Apr. 7, 1971

[21] Appl. No.: 131,983

[52] U.S. Cl. .....273/85 R, 272/52.5, 280/87.02 R

[51] Int. Cl. A63f 7/06

[58] Field of Search .....273/85 R, 94 R, 1 R, 273/127; 272/52, 52.5, 53.1, 53.2; 280/87.02 R, 87.02 W

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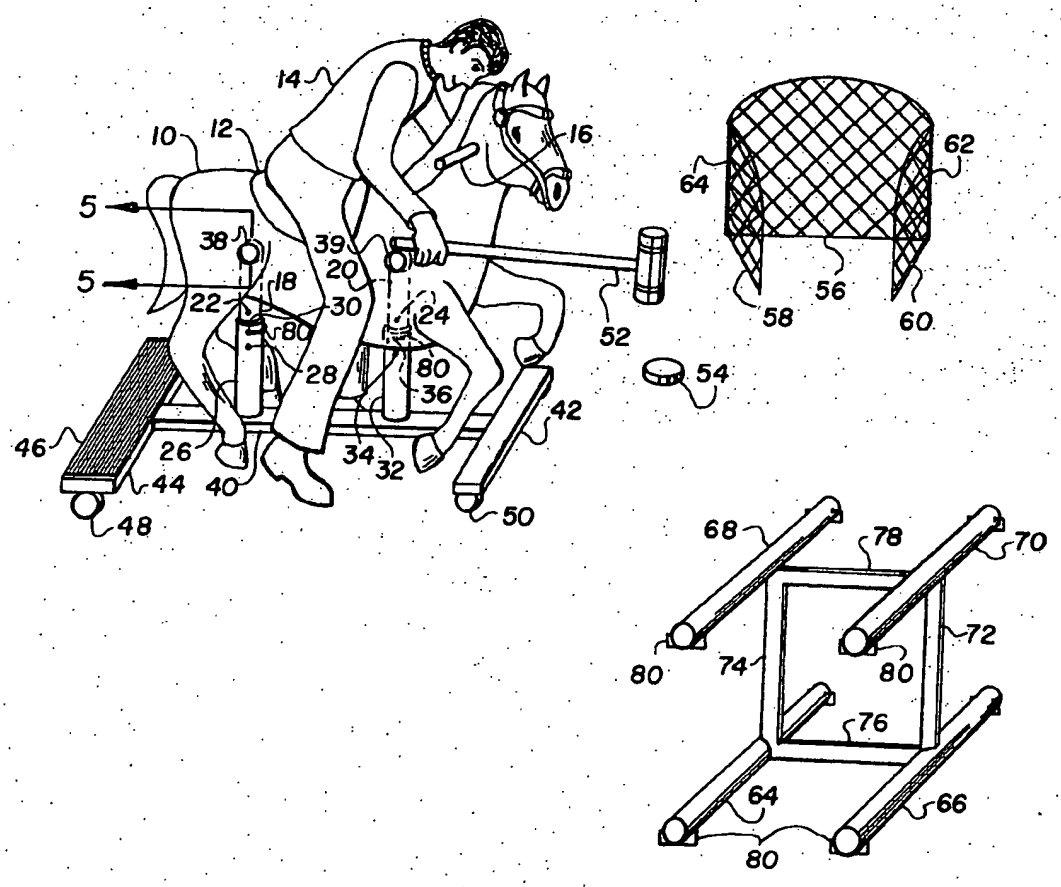
Primary Examiner—Anton O. Oechsle
Assistant Examiner—Paul E. Shapiro
Attorney—Constantine A. Michalos

[57] ABSTRACT

A game system for children for simulating polo, hockey, soccer and other games by means of hobby horses and auxiliary devices. Stability of the hobby horse structure is obtained by a wide base construction of the supporting frame. Additional safety factors are incorporated into the game system by having the hooves of the hobby horse turned inwardly; elimination of sharp edges; utilization of light-weight construction material; and supporting T-sections within the horse for structural strength. Maneuverability of the hobby horse is achieved by means of swivelable casters and by means of greater leg room for the game participants. The height of the hobby horses are adjustable by means of telescopic support posts. The game system also provides for vertical and horizontal stacking of the hobby horses for storage in a small area. A pair of hollow posts extend laterally through front and rear sections of the hobby horse body and engage the supporting T-sections. A stacking rack comprising horizontal posts attached to a frame is provided. The horizontal posts fit into the hollow posts to support the hobby horses.

5 Claims, 5 Drawing Figures



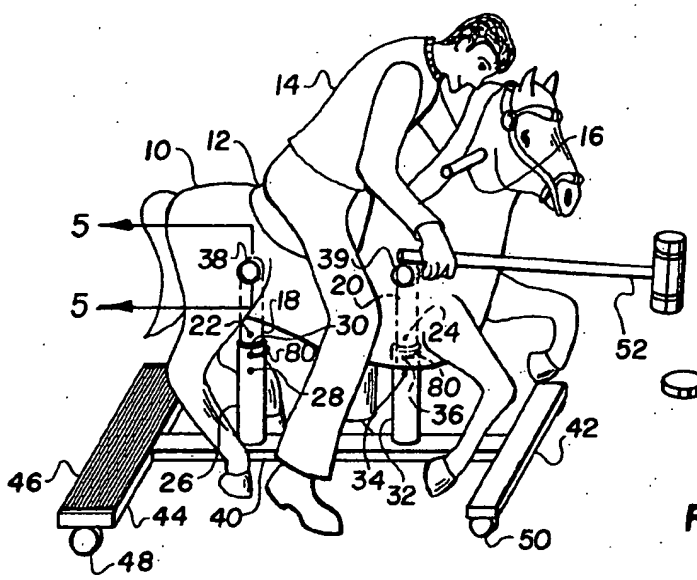
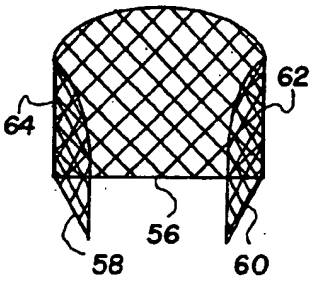


FIG. 1



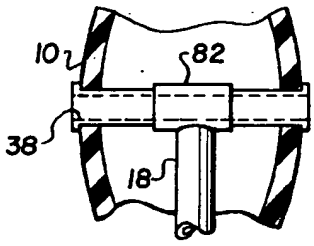


FIG. 5

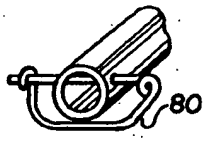


FIG. 4

FIG. 2

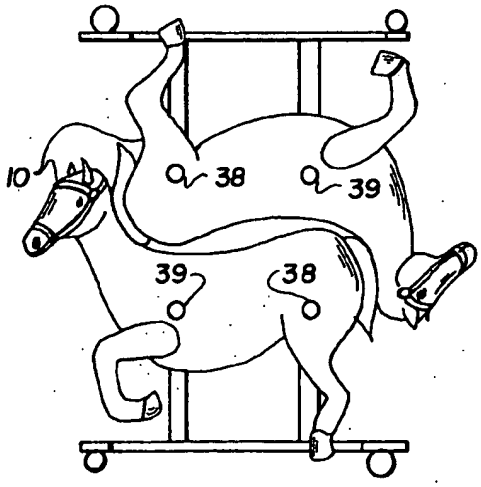
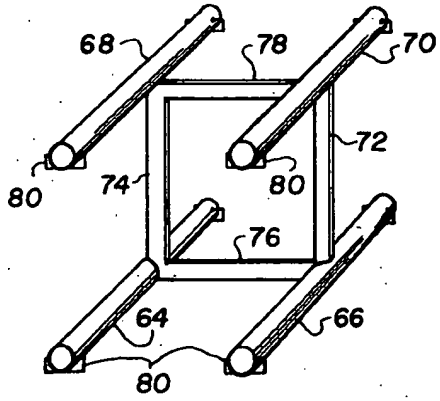


FIG. 3



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MULTI-GAME SYSTEM

BACKGROUND OF THE INVENTION

1. Field of the Invention

In general, this invention relates to games and particularly to games that are played by two opposing teams within a game area and permitting the game area to be quickly converted for other recreational purposes.

More particularly, this multi-game system for children simulates polo, hockey, soccer and other games by means of hobby horses and auxiliary devices, provides safety features to protect the game participants, and a storage structure for the hobby horses utilizes a small storage area and provides for a flexible game area that integrates this multi-game system.

2. Description of Prior Art

Heretofore, hobby horses have not been considered for competitive games by schools and other institutions due to safety, cost and storage reasons. Moveable hobby horses have been used by children on an individual basis merely to simulate the riding of a horse, while a collection of hobby horses have been used in a fixed relation to each other, such as a merry-go-round or in carnival rides. The present invention overcomes these problems by providing a multi-game system that possesses improtant safety features, has low cost factors, and minimizes the storage area for hobby horses utilized in these competitive games.

SUMMARY OF THE INVENTION

The invention simulates adult games such as polo, hockey and soccer by means of hobby horses and auxiliary devices. A major object of this invention is to provide children with the enthusiasm and motivation associated with competitive games so that they will derive exercise, team spirit and coordination from these games.

Another object of this invention is to provide handicapped and retarded children with needed physical thereapy for their arms and legs by participating in these enjoyable games.

Another object of this invention is to provide hobby horses having good maneuverability, safe construction features, and low cost factors.

Another object of this invention is to provide auxiliary game devices so that different games may be played.

Another object of this invention is to provide a practical means for storing the hobby horses in a small area so that the game area may be used for other games.

Still a further object of this invention is to provide an integrated game system that utilizes the competitive features of the game itself, the game participants, the game devices, the play area, and the storage technique.

These and other objects and features of the invention are pointed out in the following discription in terms of the embodiments thereof which are shown in the accompanying drawings.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view embodying some of the features of the present invention;

FIG. 2 is a side view showing the invention in a stacking position;

FIG. 3 is a perspective view of a structure shown in FIG. 2.

FIG. 4 is a detail view of the invention.

FIG. 5 is another detail view of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings and more particularly to FIG. 1, it will be seen that the hobby horse body **10**, which is made of a durable plastic material, has a seat **12**, hand grips **16**, and is supported by a pair of upper vertical support posts **18, 20**. These posts **18, 20** are adjustable by telescoping within corresponding hollow, lower vertical support posts **26, 32**. Both upper and lower posts contain lateral aligning holes **22, 24, 28, 34** for adjustment of the hobby horse to the desired height. The adjusted height is fixed in position by boltles fastening devices **80** to be described later in this specification. In addition, the upper ends of the upper vertical support posts **18, 20** terminate in hollow T-sections **82** within the body of the hobby horse for structural support.

The vertical posts **26, 32** are connected to a supporting base frame **40** having a front **42** and rear **44** section. Both of these sections **42, 44** are mounted on swivelable casters **48, 50** so that the hobby horse may be easily maneuvered in all directions during the game. These casters are removable and may be replaced by swivelable and therefore, self-aligning ice skating structure when the games are played on ice. Additionally, the front section **42** is somewhat narrow so that it does not interfere with the moving feet of the game participant. However, the rear section **44** is relatively wide so that the hobby horse structure is vertically stable and will not topple over during the game. In addition, the rear section **44** has an integral platform **46** that is frictionally surfaced so that a second child may stand on this platform with one foot and push the hobby horse with the other foot during racing or coasting games.

The hand-held, auxiliary stick device **52** is a mallet when polo is played or a hockey stick when hockey is played. These sticks are made of plastic or other light weight material. The game component object **54** is a puck when polo or hockey is played and is also made of plastic or other light weight material. When soccer is played the game component object **54** is a ball having substantially low resiliency so that it will not bounce outside the game area when kicked by the game participants.

For the simulated games of polo, hockey and soccer, a pair of goal devices are used. One of these goals is depicted in FIG. 1. It is comprised of a rear frame member **56** with hingedly mounted gates **58, 60** at each end of the frame **62, 64**. The gate opening may be adjusted to vary the difficulty of maneuvering a game component object within these goals. At the end of the game these gates fold flat against the rear frame for easy storage.

The stacking structure shown in FIG. 3 provides an efficient means for stacking the hobby horses vertically and horizontally for storage in a small area so that the game area may be used for other games. In a typical stacking structure that was constructed it was possible to stack twelve hobby horses very easily in an area of 42 inches by 42 inches. Referring to FIG. 3 it will be seen that the stacking structure is comprised of vertical bars **72, 74** which are intersected by horizontal bars **64, 66, 68, 70** which serve to both position and support the hobby horses when they are stacked for storage.

A construction element of the hobby horse permits the vertical and horizontal stacking of the hobby horses on the stacking structure. This construction element **38** is shown in FIG. **1** which comprises a hollow tube that extends laterally through the rear section of the body of the horse **10** and is also coupled within the body of the horse to the T-section **82** of the upper vertical support post **18** in order to provide structural strength. In addition, this lateral hollow tube **38** has its ends turned down flush against the body of the horse to eliminate any sharp edges and also to fasten itself to the horse. A similar hollow tube **39** also extends laterally through the front section of the body of the body of the horse.

During the storing operation the hobby horses are mounted on the horizontal bars **64,66,68,70** by engaging the hollow lateral tubes **38, 39** of each horse with two of the horizontal bars. For efficient utilization of space the horses on top are inverted while the costers of the horses on bottom are used for supporting the entire stacking structure and for easy manuevering of the stacking structure to the storage area. The relative positions of the hobby horses during storage are shown in FIG. **2**. When all the horses are mounted in position the ends of the horizontal bars are locked by means of a boltless, quick-disconnect device **80** having a spring and clasp mechanism. This device **80** is also used for locking the upper and lower vertical support posts shown in FIG. **1**. The details of this device **80** are shown in FIG. **4**. In addition to this quick disconnect feature, this device has smooth edges to prevent injury to children in the area.

An important feature of the game system is the provision of smooth edges and corners of all game components and elements to prevent injury to the game participants.

Although one embodiment of the invention has been illustrated and described, various changes in the form and relative arrangements of the parts, which will now appear to those skilled in the art, may be made without departing from the scope of the invention. Reference is, therefore, to be had to the appended claims for a definition of the limits of the invention.

What is claimed is:

1. A multi-game system for children for simulating adult games comprising in combination:

a plurality of wheeled hobby horse means movable in all directions within a horizontal plane, said hobby horse means to be ridden by the participants of the game and propelled by the pushing action of the feet of said game participants against the ground;

a game component object means, propelled along the ground and receiving energy by a striking force from said game participant;

a pair of adjustable goal means for receiving said game component object means;

and wherein said hobby horse means further comprises:

a plastic hobby horse body having a seat to support said game participant;

a first adjustable, vertical support post located at lower front portion of said hobby horse body;

a first hollow T-section element connected to upper end of said first adjustable, vertical support post;

a second adjustable, vertical support post located at lower rear portion of said hobby horse body;

a second hollow T-section element connected to upper end of said second adjustable vertical support post;

a supporting base connected to said first and second vertical support posts;

a plurality of wheeled coasters attached to said supporting base so that said hobby horse may move in all directions along the ground; and

a pair of hollow posts extending laterally through the front and rear sections of said body of said hobby horse and engaging first and second T-sections to permit vertical stacking of said hobby horse by auxiliary stacking means and to provide structural support for said hobby horse body.

2. A multi-game system in accordance with claim **1** wherein said first and second adjustable, vertical posts are each comprised of:

a hollow upper post member having apertures in a transverse direction;

a hollow lower post member having apertures in a transverse direction so that one post member may be telescoped within the other post member and apertures of both post members may be placed in alignment; and

fastening means for engaging said apertures in said upper and lower post members so that each vertical support post may be locked at a selected level.

3. A multi-game system in accordance with claim **1** wherein said supporting base comprises:

an axial base member disposed in a parallel direction to the body of said hobby horse;

a front base member connected transversely to said axial base member wherein said front base member is substantially short in a direction perpendicular to said axial base member so as not to interfere with the feed of said game participants during a game;

a rear base member connected transversely to said axial base member wherein said rear base member is substantially longer than said front base member so that said hobby horse will remain in a stable upright position when ridden by said game participants; and

a frictionally surfaced pad attached to the top surface of said rear base member so that said hobby horse may be used by a standing game participant in addition to the seated game participant for racing, coasting, and other games.

4. A multi-game system in accordance with claim **1** further comprising:

a movable stacking structure for vertical and horizontal stacking of said hobby horses when not in use so that a storage area for said hobby horses is substantially reduced and allows the play area to be utilized for other games; said stacking structure comprising;

a plurality of parallel horizontal bars engaging said hollow posts extending laterally through said bodies of said hobby horses; and

means for structurally connecting said horizontal bars so that said horizontal bars are in a parallel, fixed relationship to each other.

5. A multi-game system in accordance with claim **4** wherein said stacking structure further comprises a locking device at the ends of said horizontal bars so

that said hobby horses are retained in position, said locking devices further comprised of an integral, quick-disconnect spring and clasp mechanism having smooth edges to prevent injury to children in the game area.

* * * * *

US005993216A

United States Patent [19]

Stogner

[11] Patent Number: 5,993,216

[45] Date of Patent: Nov. 30, 1999

[54] MULTI-FUNCTIONAL ENCLOSURE

[76] Inventor: Robert B. Stogner, 1000 Payne St., Murray, Ky. 42071-1956

[21] Appl. No.: 08/938,713

[22] Filed: Sep. 26, 1997

[51] Int. Cl.[6] A63C 31/16

[52] U.S. Cl. ..... 434/29; 434/43; 434/69; 434/307 R; 434/365; 472/130; 52/36.2; 312/223.2; 340/825.31

[58] Field of Search ..... 361/683, 724, 361/726; 312/223.3, 235.5, 235.9, 240; 52/36.2, 36.1, 79.1, 27; 434/29, 32, 34, 38, 43–45, 55, 62, 69, 237, 238, 258, 259, 260, 307 R, 308, 365; 472/130, 131, 135; 340/825.31, 825.33, 825.34

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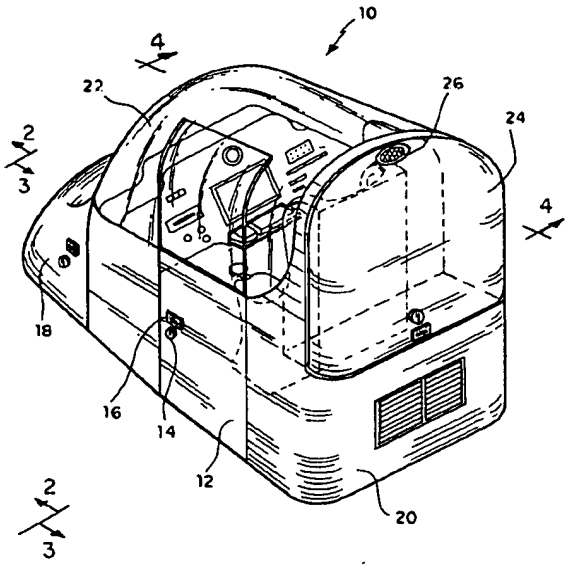
Primary Examiner—Joe H. Cheng
Attorney, Agent, or Firm—Richard C. Litman

[57] ABSTRACT

A fixed or portable multi-functional enclosure that is card-operated, climate controlled, and provides a quiet work place for use by students or businessmen. The enclosure has a generally semi-oval shaped housing comprising a front portion including a front cowling, a central portion with a curved door, and a rear portion with a lower section and a rear lid. The enclosure housing includes three magnetic card readers located on the opaque front cowling, the curved door, and the rear lid. The central portion includes an ergonomically designed seat or chair and a curved console containing a computer monitor. The ergonomically designed seat or chair is tiltable and is dimensionally adjustable up, down, forward, and backward. The console includes a fiber optic camera, a computer monitor, a computer printer, a modem, a facsimile machine, and a phone speaker. Positioned on the console are connection ports for a VOX head phone set and a virtual reality head set. The console also includes two floppy disc drives, one back-up tape drive, and a digital clock displaying day, date, and time. Housed beneath the monitor is a split computer keyboard and a small special function keypad that pulls forward to sit in front of each arm rest and is dimensionally adjustable for typing comfort. The central portion also includes a panel with controls for heat, air, and lights.

19 Claims, 5 Drawing Sheets



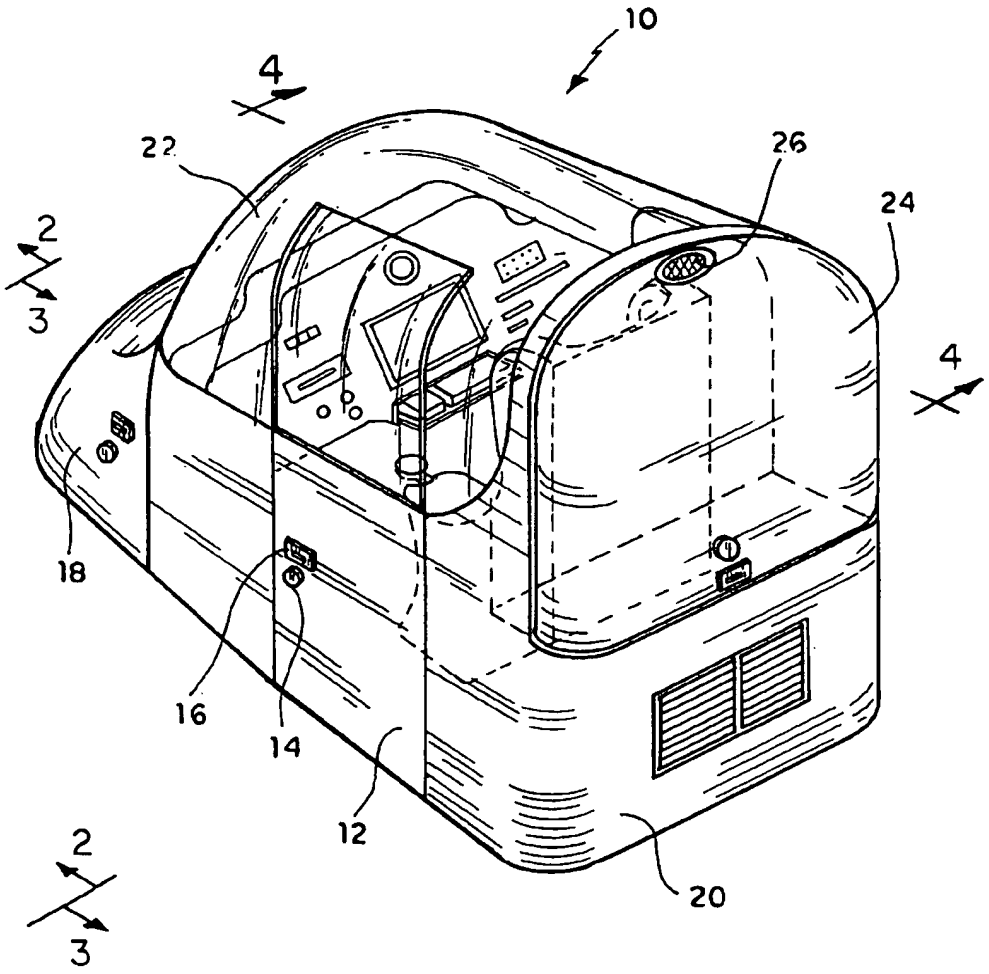


FIG. 1

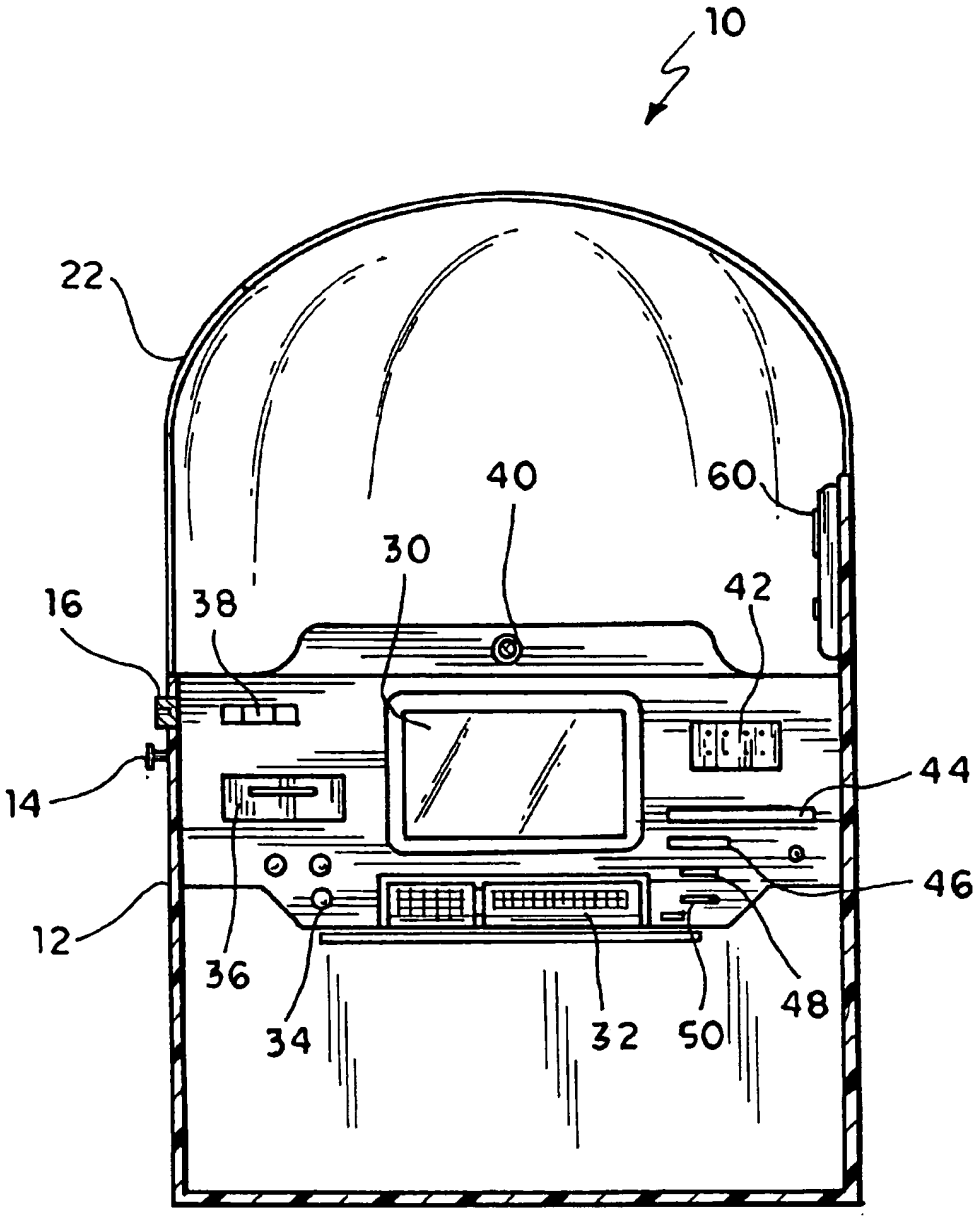


FIG. 2

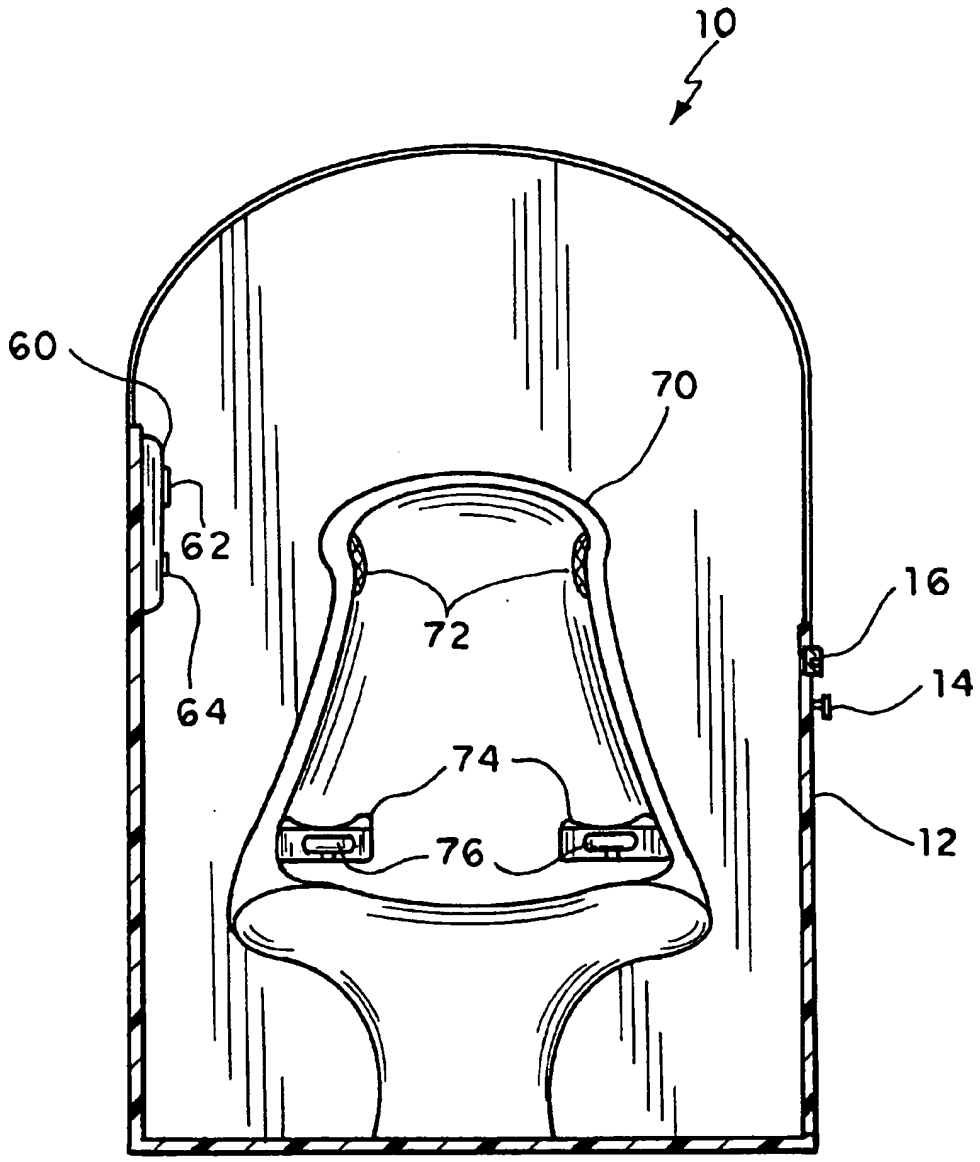


FIG. 3

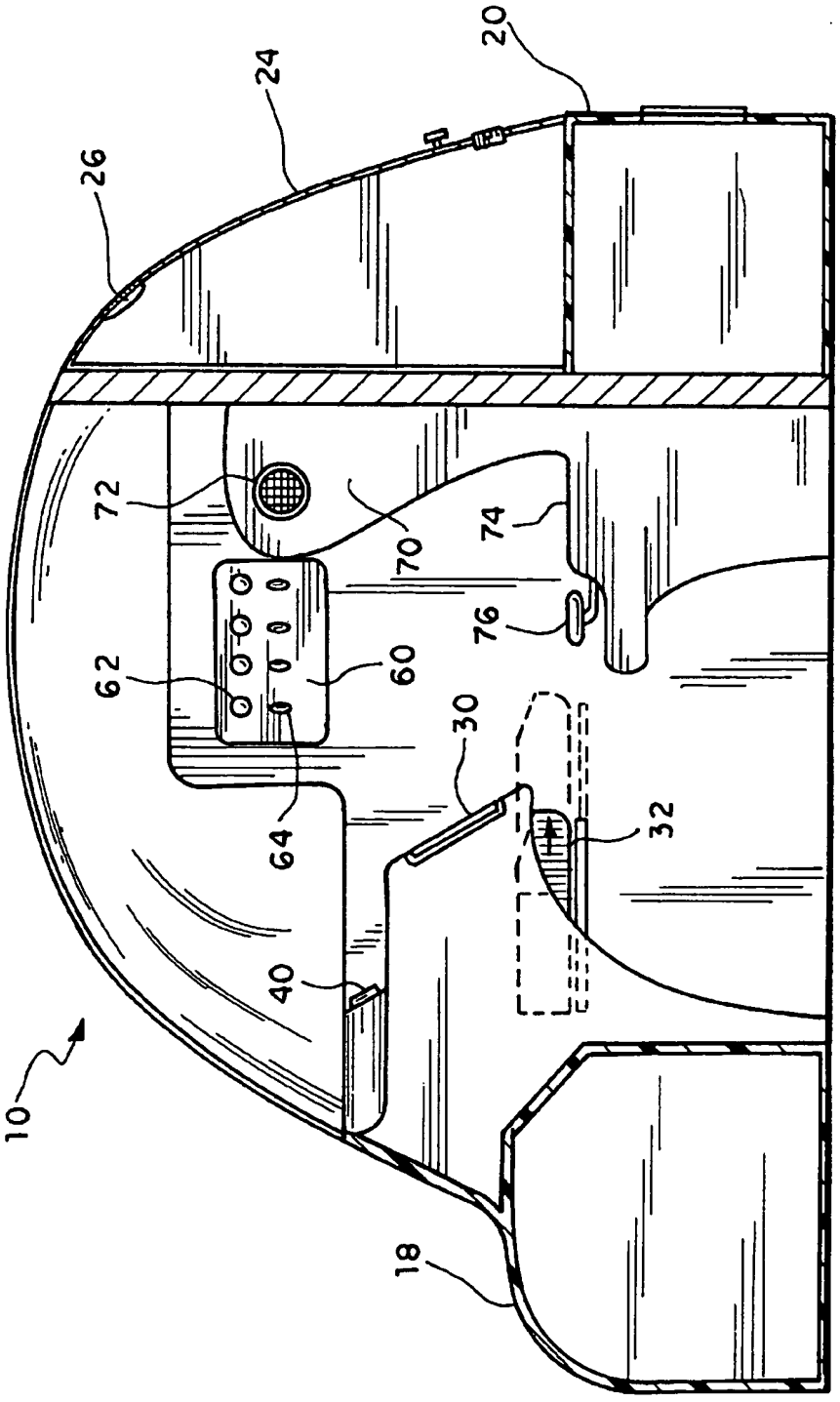


FIG. 4

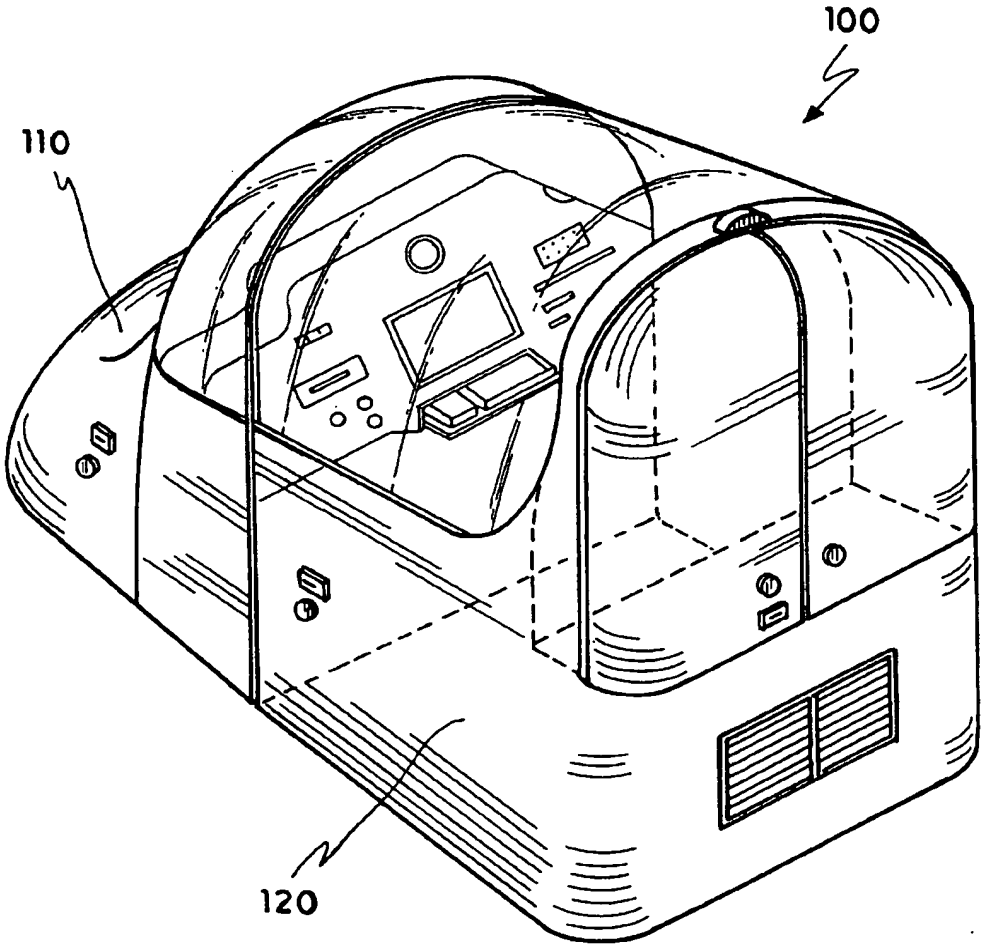


FIG. 5

MULTI-FUNCTIONAL ENCLOSURE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to educational or commercial work environments, and more specifically, to a fixed or portable multi-functional enclosure that is card-operated, climate controlled, and provides a quiet work place for use by students or businessmen.

2. Description of Related Art

Educational teaching techniques and learning environments have changed very little since the early days of our country. The bedrock of education remains the teacher or professor lecturing to groups of students, commonly in conjunction with a text. Homework is assigned to reinforce the lessons learned in class and tests are administered to measure students' aptitude and retention of material. At the early levels of education, the setting for this instruction has and continues to be the schoolroom, public or private, where a teacher is responsible for a group of, for example, fifteen to forty students. Educators have long recognized that while the classroom scenario provides economies of scale, one drawback is that students of different ages and aptitudes learn at differing rates and with the need for varying amounts of individual attention.

In addition to educational environments it is noted that some of the most important services that can be provided to a frequent business traveler while away from the office are those that are telecommunications related. Many services required by such business travelers are not conveniently accessible to them. Most business travelers are currently restricted to limited telecommunications services offered through pay phone facilities when waiting at airports or during breaks at convention centers and conferences. Therefore, there is a need to enhance the conventional educational environment to provide more flexibility to meet an individual student's needs. In addition, there is a need to provide a convenient work environment for business travelers that provides access to services to facilitate the conducting or completing of business while away from the office.

U.S. Pat. No. 3,770,334, issued on Nov. 6, 1973 to Reinold Weber, discloses a combination desk and chair. Weber does not suggest the multi-functional enclosure according to the claimed invention.

U.S. Pat. No. 4,378,727, issued on Apr. 5, 1983 to James A. Doss discloses an open space office system including a central ventilation means. Doss does not suggest the multi-functional enclosure according to the claimed invention.

U.S. Pat. No. 4,784,445, issued on Nov. 15, 1988 to Donald E. Ott discloses a heated and ventilated work station. Ott does not suggest the multi-functional enclosure according to the claimed invention.

U.S. Pat. No. 4,974,915, issued on Dec. 4, 1990 to Janice W. Bussard discloses a modular work station. Bussard does not suggest the multi-functional enclosure according to the claimed invention.

U.S. Pat. No. 5,327,744, issued on Jul. 12, 1994 to Robert C. Frawley et al. discloses an integrated environmental control system for a helicopter. Frawley et al. do not suggest the multi-functional enclosure according to the claimed invention.

U.S. Pat. No. 5,376,007, issued on Dec. 27, 1994 to Matthias Zirm discloses a microsurgical operation teaching arrangement including the use of audio-visual means and two-way communication between the teacher and the students. Zirm does not suggest the multi-functional enclosure according to the claimed invention.

U.S. Pat. No. 5,409,307, issued on Apr. 25, 1995 to Lester W. Forsythe discloses a desk which can function as both a computer desk for supporting a computer and a vehicle simulator cockpit for use with vehicle simulator software programs operated on the computer with associated user interface devices. Forsythe does not suggest the multi-functional enclosure according to the claimed invention.

U.S. Pat. No. 5,573,320, issued on Nov. 12 1996 to Brian R. Shearer discloses an enclosure for a video game or computer system and the system user. Shearer does not suggest the multi-functional enclosure according to the claimed invention.

Japan Patent document number 4-2312, published on Aug. 20, 1992, discloses a bench integrally connected between two service units at a service station to protect service station employees from the heat and cold. Japan '312 does not suggest the multi-functional enclosure according to the claimed invention.

Japan Patent document number 4-269907, published on Sep. 25, 1992, discloses a desk provided with an air conditioner. Japan '907 does not suggest the multi-functional enclosure according to the claimed invention.

None of the above inventions and patents, taken either singly or in combination, is seen to describe the instant invention as claimed.

SUMMARY OF THE INVENTION

The present invention is a fixed or portable multi-functional enclosure that is card-operated, climate controlled, and provides a quiet work place for use by students or businessmen. The enclosure has a generally semi-oval shaped housing comprising a front portion with an opaque front cowling, a central portion with a curved door having a lower opaque section and an upper transparent section, and a rear portion with an opaque lower section and an opaque rear lid. The housing includes three magnetic card readers located on the opaque front cowling, the curved door, and the opaque lid. The multi-functional enclosure is approximately eight and one half feet long, three and one half feet wide, and five feet nine inches to six feet tall at the center. All outside surfaces are curved with the exception of the front end which is flat. The bottom is flat so that it may be anchored securely to the floor. The enclosure may be constructed of any of a variety of sturdy materials, preferably opaque, high-impact plastic and clear plexiglass.

At the front of the multi-functional enclosure is a front storage area under the opaque front cowling of sufficient size to provide adequate and secure space for computer hardware (CPU, RAM, etc.). The front cowling includes a magnetic card reader and a handle.

In the center of the multi-functional enclosure is a main operational area. Access to the main operational area is provided by a curved door having a lower opaque section and an upper transparent section. The curved door includes a handle and a magnetic card reader. The main operational area includes an ergonomically designed seat or chair and a curved console containing a computer monitor which is tiltably adjustable from approximately twenty-five to forty-five degrees upward to facilitate personal viewing comfort. The main operational area also includes a panel with controls for heat, air, and lights. The ergonomically designed seat or chair is tiltable and dimensionally adjustable up, down, forward, and backward.

The seat includes arm rests that articulate so they may be adjusted in a similar manner to the seat. Each arm rest is concaved to allow a forearm to be cradled in a natural position. At the forward end of each arm rest is a palm shaped disc approximately two inches thick. Each disc is either integrally mounted into an arm rest or is, alternatively, seated on top of a rod which connects beneath the arm rest to the seat. The disc and supporting rod can recess into the under side of each arm rest. Each disc has five shallow grooves that correspond to the digits of each hand. At the end of each groove is a computer function button. These discs are moveable left to right, up and down, and will serve as, and replace, the "mouse" control normally used to operate a computer. The upper rear portion of the seat at head level may have "wings" extending on either side of the seat approximately eight inches housing stereophonic speakers with the volume control for the same being located as one of the function buttons on the palm discs. Alternatively, speakers may only be mounted on the console or may be mounted both on the console and in the seat.

The console includes a fiber optic camera, a computer monitor, a computer printer, a modem, a facsimile machine, and a phone speaker. Positioned conveniently on the console are connection ports for a VOX head phone set and a virtual reality head set. The console also includes two floppy disc drives, one back-up tape drive, and a digital clock displaying day, date, and time. Visible schedule lights may also be included for alerting users to ready themselves for break periods, such as lunch, recess, special events, etc. Housed beneath the monitor is a split computer keyboard and a small special function keypad that pulls forward to sit in front of each arm rest and is dimensionally adjustable for typing comfort. The keys on the keyboard may include braille to accommodate use by the blind.

Behind the seat is a solid plastic wall that separates the main operational area from a storage area structured above a utility area. A floor separates the utility area from the storage area. The utility area contains heating, air conditioning and/or circulating, and lighting equipment. Electrical connection ports for providing operating current are also included in the utility area. The utility area also contains a smoke detecting device and alarm. The controls are located on a panel in the main operational area in the opaque inside right of the plexiglass top. Above and separated from the utility area is a storage area of approximately three to four cubic feet. The storage area includes an opaque split lid and provides users a safe place to store personal belongings. The enclosure may be used for either educational or commercial purposes. The educational benefits of the enclosure include the ability to provide more flexibility to meet an individual student's needs. The commercial use of the enclosure in both the public and private sectors of our society can supply all communication requirements to conduct any and all manner of commercial activity needs.

Accordingly, it is a principal object of the invention to provide a multi-functional enclosure that is card-operated, climate controlled, and provides a quiet work place for use by students or businessmen.

It is another object of the invention to provide a multi-functional enclosure that can be used for educational or commercial purposes.

It is a further object of the invention to provide a multi-functional enclosure that can be adapted to facilitate access by handicapped or disabled people.

It is an object of the invention to provide improved elements and arrangements thereof in a multi-functional enclosure for the purposes described which is inexpensive, dependable and fully effective in accomplishing its intended purposes.

These and other objects of the present invention will become readily apparent upon further review of the following specification and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is rear perspective view of a multi-functional enclosure according to the invention.

FIG. **2** is a front section view drawn along lines **2**—**2** of FIG. **1**.

FIG. **3** is a rear section view drawn along lines **3**—**3** of FIGS. **1**.

FIG. **4** is a side section view drawn along lines **4**—**4** of FIG. **1**.

FIG. **5** is rear perspective view of a multi-functional enclosure according to the invention.

Similar reference characters denote corresponding features consistently throughout the attached drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings, there is a fixed or portable multi-functional enclosure **10** that is card-operated, climate controlled, and provides a quiet work place for use by students or businessmen. The enclosure **10** has a generally semi-oval shaped housing comprising a front portion with an opaque front cowling **18**, a central portion with a curved door **12** having a lower opaque section and an upper transparent section, and a rear portion with an opaque lower section **20** and an opaque lid **24**. The housing includes three magnetic card readers located on the opaque front cowling **18**, the curved door **12**, and the opaque lid **24**.

The multi-functional enclosure **10** is approximately eight and one half feet long, three and one half feet wide, and five feet nine inches to six feet tall at the center. All outside surfaces are curved with the exception of the front end which is flat. The bottom is flat so that it may be anchored securely to the floor. While the enclosure **10** may be constructed of any of a variety of sturdy materials, it is preferably made of a lower portion of opaque, high-impact plastic and an upper portion of clear plexiglass.

At the front portion of the multi-functional enclosure **10** is a front storage area under front cowling **18** of sufficient size to provide adequate and secure space for computer hardware (CPU, RAM, etc.). The front cowling **18** includes a magnetic card reader and a handle.

In the central portion of the multi-functional enclosure **10** is a main operational area. Access to the main operational area is provided by curved door **12** having a lower opaque section and an upper transparent section. The lower opaque section may be covered with an acoustical rubberized coating to provide sound insulation. The curved door includes a handle **14** and a magnetic card reader **16**. The main operational area includes an ergonomically designed seat or chair **70** and a curved console containing a computer monitor **30** which is tiltably adjustable approximately twenty to forty-five degrees upward to facilitate personal viewing comfort. The main operational area also includes a panel **60** with controls for heat, air, and lights. The ergonomically designed seat or chair **70** includes means to enable it to be tiltable and dimensionally adjustable up, down, forward, and backward.

As shown in FIGS. **3** and **4**, the seat **70** includes arm rests **74** that articulate so they may be adjusted in a similar

manner to the seat **70**. Each arm rest **74** is concaved to allow a forearm to be cradled in a natural position. At the forward end of each arm rest **74** is a palm shaped disc **76** approximately two inches thick. Each disc is either integrally mounted into an arm rest **74** or is, alternatively, seated on top of a rod which connects beneath the arm rest **74** to the seat **70**. The disc **76** and supporting rod can recess into the under side of each arm rest **74**. Each disc **76** has five shallow grooves that correspond to the digits of each hand. At the end of each groove is a computer function button. These discs **76** are moveable left to right, up and down, and will serve as, and replace, the "mouse" control normally used to operate a computer. The upper rear portion of the seat **70** at head level has "wings" extending on either side of the seat **70** approximately eight inches housing stereophonic speakers **72** with the volume control for the same being located as one of the function buttons on the palm discs **76**. Alternatively, speakers may only be mounted on the console or may be mounted both on the console and in the seat.

The console includes a fiber optic camera **40**, a computer monitor **30**, a computer printer **44**, a modem, a facsimile machine **36**, and a phone speaker. Positioned conveniently on the console are connection ports for a VOX head phone set, a virtual reality head set, and a laptop computer. The console includes a special function keypad having a number of keys that enables a user to carry out preprogrammed functions at the touch of a button, such as setting up appointments to see a teacher, a principle, a nurse, etc. Below the special function keypad are digital camera ports for connection with digital cameras. The console may also include a cursive electronic writing pad and an electronic writing tool enabling a user to enter cursive writing samples which could be compared with stored curseve models. The console also includes two floppy disc drives **48,50**, one back-up tape drive **46**, and a digital clock **38** displaying day, date, and time.

Visible schedule lights **34** may be included for alerting users to ready themselves for break periods, such as lunch, recess, special events, etc. The monitor **30** can be a conventional VGA monitor attached via a serial port to a system bus. In some preferred embodiments of the invention, the monitor **30** may be touch sensitive so that a user can enter data and respond to questions from the computer via the screen. Housed beneath the monitor **30** is a split computer keyboard **32** and a small special function keypad that pulls forward to sit in front of each arm rest and is dimensionally adjustable for typing comfort. An alphanumeric keypad providing calculator capabilities may also be included to the right of the keyboard **32**. The keys on the keyboard **32** may include braille and the console may include an adjustable speed braille pin reader to accommodate use by the blind.

Beneath the keyboard **32** is a pullout desktop as a provision for a laptop computer. The computer in the enclosure **10** includes a laptop computer function that enables a user to upload and download data from the laptop to the computer once the laptop is properly connected to the laptop connection port. The function keys on the palm discs **76** and the split keyboard **32** operate all related equipment contained within the main operational area with the exception of heat, air, and lights. The main operational area may also contain passive, noninvasive monitors to record ambient temperature, heart rate, body temperature, breathing rate and stress levels of the users. These monitors can operate constantly or at periodic intervals. Stress can be measured by voice graph analysis. The computer in the enclosure is fully internet ready. Interconnection of the electronic components is not discussed in greater detail since the interconnection of components in a microcomputer system is well known in the prior art. It is understood that other equipment could be substituted without departing from the scope of the invention.

Behind the seat **70** is a solid plastic wall that separates the main operational area from a storage area structured above a utility area. A floor separates the utility area from the storage area. The utility area contains heating, air conditioning/circulating, and lighting equipment. The utility area also contains a smoke detecting device and alarm. Electrical connection ports for providing operating current are included in the utility area. The controls are located on a panel **60** in the main operational area in the opaque inside right of the plexiglass top. Above and separated from the utility area is a storage area of approximately three to four cubic feet. The storage area includes an opaque split lid **24** and provides users a safe place to store personal belongings.

The outside of the multi-functional enclosure **10** contains three magnetic card ports **16**: one on the opaque front cowling **18** for access to the front storage area for computer hardware, one on the curved door **12** for access to the main operational area and one on the door **24** for access to the storage/utility area. Access to the multi-functional enclosure **10** is controlled by a card-operated controlled lock, which is responsive to magnetic characters imprinted on a card, or by a special key. The card is read by a computer, coupled to the multi-functional enclosure **10**, which records the data on the card, such as the user name, identification data, and the time the card is inserted in the lock, etc.

If the computer determines that the user is entitled to access, it activates the door lock to release the door **12** to allow entrance of the user into the enclosure **10**, and activates light and climate control equipment for heating and air conditioning. The inside of the door **12** has redundant electronic and manual opening devices to prevent entrapment. A safety light **26** is located on the top back of the enclosure **10**. The enclosure **10** is easily adaptable for persons with physical disabilities. For example, as shown in FIG. **5**, the enclosure **100** could be configured in the form of a front portion **110** and a rear portion **120** having no door and no interior seat to provide access by users in wheelchairs. The rear portion **120** could be adapted to separate from the front portion along rails.

The enclosure **10** may be used for either educational or commercial purposes. The educational benefits of the enclosure **10** include the ability to provide more flexibility to meet an individual student's needs. A classroom containing enclosures **10** for each student could be in constant communication with a teacher's workstation via a local area network (LAN). This real-time communication between student workstation and teacher workstation would allow the teacher to be informed of the students' progress as well as allowing the teacher to tailor instructional programs for each student.

The teacher and/or system program could then use the results of homework assignments in conjunction with each student's progress, which has been stored in another database file at the end of the previous day, to assign lesson segments to each student as the process allows the teacher and/or a system program to determine how much and what type of material each student can access for a given period of time, and provide the first of several opportunities for the teacher and/or system program to tailor each student's individual learning program.

Within the system the assignment process could be controlled by the CPU of the teacher's station which would download the control programs corresponding to the lesson

segments selected by the teacher and/or system program from the hard drive or other storage device of the teacher's workstation to the selected student's station through the LAN. Alternately, a single control program could be downloaded to the students' workstation. When run by the student these control programs could access various information storage devices to retrieve the audio and visual data created for each lesson segment.

Typically, a series of questions would be retrieved from a database of questions associated with the particular lesson segment for the student to answer. The student would enter responses via the keyboard, and the workstation CPU would compare these responses to the correct answers stored in the database. If desired, a grade on the student's responses could be generated and transmitted to the teacher's station for storage in the student's file.

If the student had correctly answered all of the questions the student could access another lesson segment, request recreational material, or end for the day. If the student had incorrectly answered some questions, the program could retrieve and replay only material relating to those questions which were missed. This replayed material could be excerpted from the original presentation or it could be new material specifically designed to explain the correct answer to each incorrectly answered question.

After replaying this remedial material, the same or different questions as those previously answered incorrectly could again be displayed and answered. The workstation CPU could again check the answers and transmit the results to the teacher's station for storage. If all of the answers were correct, the student could access another lesson segment, request recreational material, or end for the day. If, however, after a predetermined number of tries the student still failed to grasp the material and answered some questions incorrectly, the student's workstation could send a message to the teacher's workstation indicating which material the student was having problems with. The teacher could then use his or her own methods to personally help the student grasp the material.

The enclosure **10** could also be used to effectively execute an assessment test on the students to carry out vocational, psychological, and intellectual testing and assessment. Many school systems require such testing to be carried out and evaluated by phsycologists which results in great deal of time and expense. These tests could be effectively implemented on software and loaded on the computer in each enclosure which would substantially reduce the time and expense of carrying out such tests.

The commercial use of the multi-functional enclosure in both the public and private sectors of our society can supply all communication requirements to conduct any and all manner of commercial activity needs. Anyone can, with proper identification, be able to purchase time on these enclosures and be automatically billed. These enclosures can be located in malls, banks, office buildings or any convenient location. They may also be purchased for home or private business use.

The security system is virtually foolproof and offers various levels of security depending on individual needs. The user would enter and use the communication services provided by the enclosure **10**. One needs to possess a specially coded magnetic card much like a credit card. On this card is stored, in digital form, the individual's name, address, phone number, driver's license number, social security number, personal account number, digital voice graph, digital thumb print, physical description, and an encrypting code number. The card, when placed into the magnetic card port located on the door **12**, would allow entry into the main operational area of the enclosure **10**. Once inside the main operational area the card would be inserted into a card port located on the console to boot up the computer and engage all other communication equipment. The computer would ask the user to confirm certain data contained on his card by either using the keyboard or speaking. The console would include a thumb print scanner window to read the user's thumb print. If the person using the machine has found or stolen the card he could not match the voice print or the thumb print and therefore would be denied access to use the equipment. The enclosures **10** could be used as a "man-trap" and hold an offender for the authorities. The police would be notified instantly, electronically. The card, when used by the legitimate owner, would automatically bill that person's account for the time and services provided and print out a receipt for the same.

The enclosure **10** would have an inside overhead privacy screen that extended or retracted at the push of a button. The level of security chosen by the user to send or receive information could range from simply a name or account number to encrypting or decrypting the entire communication. Each level of security would require a higher usage fee. The monitor screen would give step by step written instructions for using each separate service, or it could give verbile commands.

Businesses could lease or buy these multi-functional enclosures **10**. Each enclosure **10** can be customized to fit the customer's needs, including customizing software. Private schools, church schools, and home schools could own or lease a machine that would contain the equivalent of a standard twelve year educational program or beyond. The enclosure **10** can guarantee parody for all school children regardless of where their education was obtained.

It is to be understood that the present invention is not limited to the embodiments described above, but encompasses any and all embodiments within the scope of the following claims.

I claim:

1. A multi-function enclosure for students or businessmen which is responsive to a planar magnetic card having magnetic data disposed thereon comprising:

a housing having a front portion, a central portion and a rear portion;

a front cowling including latch means for providing access to a front storage area mounted on said front portion of said housing;

a curved door including latch means for providing access to a main operational area mounted on said central portion of said housing;

a rear lid including latch means for providing access to a rear storage area and a rear utility area mounted on said rear portion of said housing;

three magnetic card readers supported by said front cowling, said curved door, and said rear lid, said card readers responsive to the planar magnetic card having the magnetic data disposed thereon for reading the magnetic data and providing an output signal in response to the magnetic data on the planar card, said card readers each having a card input opening;

a preprogrammed computer system supported in said front storage area and including program means for communicating with a user and for receiving coded data contained on said planar magnetic card and for providing an output signal to said computer responsive to said data;

said latch means coupled to the output of said computer system for opening and locking said front storage area, said main operational area, said rear storage area, and said utility area in response to the output signal from said computer system;

an ergonomic seat or chair mounted in said main operational area of said housing; and

a console mounted in said central portion of said housing including a fiber optic camera, a computer monitor, a computer printer, a modem coupled to said computer system, a facsimile machine coupled to said computer system, at least one floppy disc drive, at least one back-up tape drive, and a digital clock displaying day, date, and time.

2. The multi-functional enclosure according to claim **1**, further including heating means, air conditioning means, and lighting means.

3. The multi-functional enclosure according to claim **2**, wherein said main operational area of said housing includes control means for controlling said heating means, said air conditioning means, and said lighting means.

4. The multi-functional enclosure according to claim **1**, wherein said ergonomic seat or chair includes means for tilting said seat or chair, and for dimensionally adjusting said chair up, down, forward, and backward.

5. The multi-functional enclosure according to claim **1**, wherein said ergonomic seat includes two side extensions on either side of the top of said seat, and a stereophonic speaker housed in each side extension.

6. The multi-functional enclosure according to claim **1**, wherein said ergonomic seat or chair includes arm rests that articulate and are adjustable.

7. The multi-functional enclosure according to claim **6**, wherein said arm rests are concaved.

8. The multi-functional enclosure according to claim **6**, wherein said ergonomic chair or seat includes a palm shaped disc approximately two inches thick mounted at the front of each arm rest and having five shallow grooves that correspond to digits of a hand for operating the computer system.

9. The multi-functional enclosure according to claim **1**, including a split computer keyboard housed beneath said computer monitor and a small special function keypad that are movable forward to sit in front of each arm rest and is dimensionally adjustable for typing comfort.

10. The multi-functional enclosure according to claim **9**, wherein said split computer keyboard includes keys having braille.

11. The multi-functional enclosure according to claim **1**, wherein said main operational area includes passive, noninvasive monitors to record ambient temperature, heart rate, body temperature, breathing rate and stress levels of the users.

12. The multi-functional enclosure according to claim **1**, wherein said housing is made from a combination of opaque, high-impact plastic and clear plexiglass.

13. A multi-function enclosure for students or businessmen which is responsive to a planar magnetic card having magnetic data disposed thereon comprising:

a housing having a front portion and a rear portion;

a front cowling including latch means for providing access to a front storage area mounted on said front portion of said housing;

a rear lid including latch means for providing access to a rear storage area and a rear utility area mounted on said rear portion of said housing;

three magnetic card readers supported by said front cowling, and said rear lid, said card readers responsive to the planar magnetic card having the magnetic data disposed thereon for reading the magnetic data and providing an output signal in response to the magnetic data on the planar card, said card readers each having a card input opening;

a preprogrammed computer system supported in said front storage area and including program means for communicating with a user and for receiving coded data contained on said planar magnetic card and for providing an output signal to said computer responsive to said data;

said latch means coupled to the output of said computer system for opening and locking said front storage area, said main operational area, said rear storage area, and said utility area in response to the output signal from said computer system; and

a console mounted in a central portion of said housing including a fiber optic camera, a computer monitor, a computer printer, a modem coupled to said computer system, a facsimile machine coupled to said computer system, at least one floppy disc drive, at least one back-up tape drive, and a digital clock displaying day, date, and time;

wherein said rear portion is detachably connected to said front portion on rails to provide access to the interior of the enclosure by people in wheelchairs.

14. The multi-functional enclosure according to claim **13**, including heating means, air conditioning means, and lighting means.

15. The multi-functional enclosure according to claim **14**, wherein said main operational area of said housing includes control means for controlling said heating means, air conditioning means, and said lighting means.

16. The multi-functional enclosure according to claim **13**, including a split computer keyboard housed beneath said computer monitor and a small special function keypad that are movable forward to sit in front of each arm rest and is dimensionally adjustable for typing comfort.

17. The multi-functional enclosure according to claim **16**, wherein said split computer keyboard includes keys having braille.

18. The multi-functional enclosure according to claim **13**, wherein the main operational area includes passive, noninvasive monitors to record ambient temperature, heart rate, body temperature, breathing rate and stress levels of the users.

19. The multi-functional enclosure according to claim **13**, wherein said housing is made from a combination of opaque, high-impact plastic and clear plexiglass.

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